

ENVIRONMENTAL CONSULTING &amp; MANAGEMENT

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May 19, 2017

Mr. Mike Cirian, P.E.  
United States Environmental Protection Agency  
108 East 9th Street  
Libby, Montana 59923

Re: CFAC Main Plant Building Pot Room #1- Crushed Concrete Backfill Approval  
Request  
Columbia Falls Aluminum Company, Columbia Falls, Montana

Dear Mr. Cirian:

Roux Associates, Inc. (Roux Associates), on behalf of Columbia Falls Aluminum Company (CFAC), has prepared this letter to describe concrete sampling activities performed in the CFAC Main Plant Building Pot Room #1, summarize the results of those activities, and to request concurrence from the United States Environmental Protection Agency (USEPA) for CFAC to use concrete from Pot Room #1 building floors and basement as subgrade backfill material for the ongoing demolition activities at the CFAC Site, located at 2000 Aluminum Drive near Columbia Falls, Flathead County, Montana (Site). This letter and the activities described herein were conducted in accordance with the approved Concrete Sampling and Analysis Plan dated August 31, 2016 (Concrete SAP) and the Concrete SAP Modification #1 dated April 25, 2017.

### **Background**

Calbag Resources, LLC (Calbag) is conducting ongoing salvage and demolition activities of the CFAC Main Plant buildings. As part of the demolition, Calbag plans on sampling various building materials to support waste characterization, handling, and disposal as needed throughout the demolition. The sampling and management of waste is described in Calbag's Waste Management Plan for Building 1 (WMP), which has been approved by the Montana Department of Environmental Quality (MDEQ). The WMP states: "CFAC may crush the concrete from the ground level floor, supports and other concrete structures to be used later as fill material. The regulatory levels that will determine what can be used as fill material will be made under a different regulatory program. Authorization of the material used for fill is outside the parameters of this WMP." In addition, the MDEQ approval of the WMP states: "Demolition of the concrete foundation of Building I will require coordination with Site-wide remedial activities. Additional cleanup or actions may be required of Columbia Falls Aluminum Company or Glencore under other authorities, including, but not limited to, those of the Department under the Comprehensive Environmental Cleanup and Responsibility Act and other applicable statutes, and EPA under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 as amended. Additional

work required for Site-wide remedial action could include characterization of the scope and extent of contamination under Building 1, demolition of the Building I concrete foundation, and limits on the use of the concrete as fill material.”

The Calbag WMP outlines the concrete sampling being conducted by Calbag to support the waste characterization as either hazardous or non-hazardous. The Calbag WMP specifies concrete chip samples will be collected from each pot room following cathode removal; including concrete chip samples from the pot room floors, basement floors, concrete walls, and other selected locations. The concrete sampling activities described in the Concrete SAP prepared by Roux Associates and CFAC were designed to supplement the Calbag sampling results with additional analyses to determine if the concrete is suitable for use as subgrade backfill as part of the ongoing demolition activities being conducted by Calbag.

### **Scope of Work**

Sampling of concrete from the CFAC Main Plant Building, Pot Room #1 was completed by Calbag and Hydrometrics field personnel on March 10, 2017. Calbag performed concrete sampling to support their WMP, and Hydrometrics, on behalf of CFAC, collected concrete samples from the same locations as the concrete samples collected by Calbag, to satisfy the Concrete SAP. The sample locations were selected as specified in Calbag’s WMP, with approximate locations shown on Figure 1.

Prior to sampling, Calbag broom-swept the sample locations as described in the WMP. Eleven concrete chip samples were collected from Pot Room #1 as described below and as noted in the WMP:

- Four, five-point composite samples were collected in four equal grids from the ground floor;
- Four, five point composites samples were collected in four equal grids from the basement floor;
- One, five-point composite sample was collected from the north wall at the end of the pot room;
- One, five-point composite sample was collected from the south wall at the end of the pot room; and
- One, five point composite sample was collected from support structures.

The concrete chip samples were shipped under chain of custody to TestAmerica Laboratories, Inc. in Edison, New Jersey for analysis of the parameters specified in the Calbag WMP and Concrete SAP. Concurrent with Pot Room #1 concrete sampling, Calbag and Hydrometrics also collected concrete samples from the CFAC Main Plant building battery room. Results of the battery room sampling will be provided to USEPA under

separate cover. All concrete samples collected from Pot Room #1 were analyzed for the following<sup>1</sup>:

- Resource Conservation and Recovery Act (RCRA) Metals, via USEPA SW-846 Method SW-846 6020A/7470A;
- Total Fluoride via USEPA SW-846 Method 9056;
- Total cyanide via USEPA SW-846 Method 1312/9016
- Target Compound List (TCL) Semi-Volatile Organic Compounds (SVOCs) via USEPA SW-846 Method 8270D;
- Total Polychlorinated biphenyls (PCBs) via USEPA SW-846 Method 8082;
- Synthetic Precipitation Leaching Procedure (SPLP) TCL Volatile Organic Compounds (VOCs) via USEPA SW-846 Method 1312/8260B;
- SPLP TCL SVOCs via USEPA SW-846 Method 1312/8270D;
- SPLP PCBs via USEPA SW-846 Method 1312/8082;
- SPLP TAL Metals, via USEPA SW-846 Method SW-846 1312/6020A/7470A;
- SPLP Fluoride via USEPA SW-846 Method 1312/9056; and
- SPLP Free cyanide via USEPA SW-846 Method 1312/9016.

### **Concrete Sampling Results**

In accordance with the Concrete SAP, concrete total analyses results were compared to USEPA Residential Regional Screening Levels (RSLs) and Industrial RSLs (May 2016) to evaluate potential exposure risk. Concrete samples results were not compared to USEPA Protection of Groundwater Risk Based Soil Screening Levels (May 2016) since concrete samples were analyzed for via SPLP for evaluating leaching and corresponding potential for impact to groundwater. The SPLP leachate analysis results from the concrete samples were compared to USEPA Drinking Water Maximum Contaminant Levels (MCL) and USEPA Tapwater RSLs (May 2016), where available.

Concrete analytical data for the samples collected from Pot Room #1 are summarized in the attached Tables 1-9. The data indicates the following about Pot Room #1 concrete surface conditions:

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<sup>1</sup> Calbag collected concrete samples and analyzed for RCRA metals, total fluoride, total cyanide and PCBs. Hydrometrics, on behalf of CFAC, collected concrete samples and analyzed for TCL SVOCs, and SPLP VOCs, SPLP SVOCs, SPLP metals, SPLP PCBs, SPLP free cyanide, and SPLP fluoride.

- SVOCs; specifically, polycyclic aromatic hydrocarbons (PAHs), were detected at concentrations exceeding USEPA Residential RSLs in all eight, ground floor and basement floor samples, and exceeded USEPA Industrial RSLs in four of the eight ground floor and basement floor samples. PAHs were detected in basement wall samples, but not at concentrations exceeding USEPA Residential or Industrial RSLs. PAHs were detected at concentrations exceeding USEPA Residential and Industrial RSLs in the structural support sample. Benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, dibenz(a,h)anthracene, and indeno[1,2,3-cd]pyrene exceeded USEPA Industrial RSLs, and benzo[k]fluoranthene exceeded USEPA Residential RSLs.
- SVOCs were detected in concrete leachate samples at concentrations exceeding USEPA Tapwater RSLs, including detected concentrations of 1,1'-biphenyl, 2-methylnaphthalene, dibenzofuran, and naphthalene. SVOCs did not exceed USEPA MCLs.
- Total cyanide was detected in nine of eleven concrete sample locations. Detected concentrations were below the USEPA Residential and Industrials RSLs for cyanide, except for one sample location that exceeded both the USEPA Residential and Industrial RSL (CFPR01-BW-01).
- Free cyanide was detected in one concrete leachate sample collected from the northern basement wall at a concentration of 5.8 micrograms per liter (ug/L). This detection exceeded the USEPA Tapwater RSL, but did not exceed the USEPA MCL.
- Total fluoride was detected in all concrete samples collected from Pot Room #1 surface samples. Fluoride was detected at concentrations exceeding USEPA Residential RSLs in four locations, but did not exceed USEPA Industrial RSLs.
- Fluoride was detected in all concrete leachate samples collected from Pot Room #1 surface samples. Fluoride was detected at concentrations exceeding the USEPA MCL in all sample locations, with the exception of the sample collected from the southern basement wall.
- Metals were detected in each concrete surface sample collected from Pot Room #1 surface samples. Arsenic was detected at concentrations exceeding USEPA Residential RSLs in all sample locations, and exceeded USEPA Industrial RSLs in four locations. All other metals were detected at concentrations below USEPA Residential RSLs.
- Metals were detected in each concrete leachate sample collected from Pot Room #1 surface samples. Concentrations of aluminum, antimony, arsenic, cobalt, iron, and vanadium exceeded USEPA Tapwater RSLs. Metals were not detected at concentrations exceeding USEPA MCLs.

- VOCs were detected in concrete leachate samples, including 2-hexanone, benzene, and methylene chloride which exceeded USEPA Tapwater RSLs. Methylene chloride was detected at concentrations exceeding the USEPA MCL at each sample location. It should be noted that Methylene chloride is likely a lab artifact based on its detection in the method blank.
- PCBs were detected in six of eleven concrete surface samples, with two concrete sample locations with concentrations above USEPA Residential RSLs. All other detections were below USEPA Residential RSLs.
- PCBs were not detected in concrete leachate samples.

Concrete quality data from the initial surface sampling within Pot Room #1 indicate elevated levels of leachable fluoride and leachable concentrations of other contaminants of potential concern (COPCs) are present within the concrete surface samples. In addition, PAHs were found at concentrations exceeding USEPA Industrial RSLs in half of the samples collected.

Based on the initial sampling results, Roux Associates/CFAC proposed to collect additional concrete samples to further evaluate the concrete conditions. The first objective of the additional sampling was to evaluate if COPCs are present in surface concrete only, or if impacts extend beneath the first inch of concrete. Evaluation of the concrete beneath the surface is necessary to understanding the overall conditions of the concrete when crushed and mixed for use as fill. As noted in the WMP, the entire ground floor and structural support concrete will be removed and potentially be used as backfill.

The second objective of the additional concrete sampling was to evaluate if more surficial cleaning (beyond broom-clean) of the concrete would change the sampling results. As noted in the WMP, broom-cleaning is the proposed procedure in the basement floors after all the ground floor and support structure concrete is removed.

The description of the additional sampling is documented in the Concrete SAP Field Modification #1, submitted to USEPA on April 25, 2017. The modification described the following scope of work:

- Collection of three (3) five-point composite surficial chip samples without additional cleaning. These samples will be collected in accordance with the procedures outlined in the Concrete SAP and Calbag's WMP.
- Collection of three (3) five-point composite surficial chip samples after additional surficial cleaning of the concrete. These samples will be collected in accordance with the procedures outlined in the Concrete SAP and Calbag's WMP; however, the concrete surface will be wiped with a wet rag and brushed with a wire brush at each composite location before collecting the sample.
- Collection of three (3) concrete cores to approximately 6 to 8 inches beneath the concrete surface. The first inch of each concrete core will be analyzed as one sample

and the remaining inches of the concrete core will also be analyzed as a sample.

- Collection of three (3) concrete cores to approximately 6 to 8 inches beneath the concrete surface. Prior to collection, the concrete surface will be wiped with a wet rag and brushed with a wire brush before collecting the core. The entire length of the concrete core will be analyzed.

Additional sampling of concrete from the CFAC Main Plant Building, Pot Room #1 was completed by Hydrometrics field personnel from May 2, 2017, to May 4, 2017. Hydrometrics collected concrete samples from locations CFPR01-BF-02, CFPR01-GF-02, and CFPR01-GF-01. At each location, concrete samples were collected using the four methods described above. To collect the cleaned surface concrete samples, Hydrometrics swept the concrete surface, brushed the surface with a wire brush, and wiped the surface again with deionized water and a rag prior to collecting a cleaned surface concrete sample. To collect the core concrete samples, a core drill was used to collect a 0-1-inch below surface concrete core, and a 1-6-inch below surface concrete core. Additional concrete core sample locations from Pot Room #1 are presented on Figure 1.

Fifteen concrete samples were collected from the proposed locations and analyzed for the parameters outlined in Concrete SAP Field Modification #1. Concrete chips and cores were shipped to TestAmerica Laboratories, Inc. in Edison, New Jersey. All additional concrete samples collected from Pot Room #1 were analyzed for the following:

- TCL SVOCs via USEPA SW-846 Method 8270D;
- SPLP TCL VOCs via USEPA SW-846 Method 1312/8260B;
- SPLP TCL SVOCs via USEPA SW-846 Method 1312/8270D;
- SPLP TAL Metals, via USEPA SW-846 Method SW-846 1312/6020A/7470A;
- SPLP Fluoride via USEPA SW-846 Method 1312/9056; and
- SPLP Free cyanide via USEPA SW-846 Method 1312/9016.

Analyses that were originally sampled for by Calbag, including RCRA metals, total fluoride, total cyanide, and PCBs, were not rerun at the time of additional sampling because the Calbag data was not available for review when preparing the modification Scope of Work. Additional concrete samples were not analyzed for SPLP PCBs due to the lack of detections during the first iteration of concrete sampling.

Concrete total analyses results were compared to USEPA Residential RSLs and Industrial RSLs (May 2016) to evaluate potential exposure risk. Concrete samples results were not compared to USEPA Protection of Groundwater Risk Based Soil Screening Levels (May 2016) since concrete samples were analyzed for via SPLP for evaluating leaching and corresponding potential for impact to groundwater. The SPLP leachate analysis results from

the additional concrete samples were compared to USEPA Drinking Water MCLs and USEPA Tapwater RSLs (May 2016), where available.

Concrete analytical data for the fifteen additional samples collected from Pot Room #1 are summarized in the attached Tables 10-14. The data indicates the following about Pot Room #1 concrete conditions:

- PAHs including benzo[a]anthracene, benzo[a]pyrene, benzo[b]fluoranthene, dibenz(a,h)anthracene, and indeno[1,2,3-cd]pyrene exceeded USEPA Industrial RSLs, and 4,6-dinitro-2-methylphenol, benzo[k]fluoranthene, hexachlorocyclopentadiene, and n-nitrosodi-n-propylamine exceeded USEPA Residential RSLs in the concrete surficial chip samples. Concentrations of PAHs were detected at lesser frequencies and concentrations in the core samples when compared to the surficial chip samples. Detected concentrations of PAHs were detected at higher concentrations in the 0-1-inch core sample than the 1-6-inch core sample and generally decreased in the 0-6-inch core sample after surficial cleaning.
- SVOCs were detected in additional concrete leachate samples at concentrations exceeding USEPA Tapwater RSLs, including detected concentrations for 1,1'-biphenyl and naphthalene. The exceedances occurred in both the surficial chip samples and the core samples. SVOCs did not exceed USEPA MCLs in any of the additional concrete leachate samples.
- Free cyanide was detected in additional concrete leachate samples in five of fifteen samples at concentrations exceeding the USEPA Tapwater RSL, but did not exceed the USEPA MCL. The variations in detections and concentrations of free cyanide did not appear to correlate with cleaning or with increasing depth.
- Fluoride was detected in all additional concrete leachate samples collected from Pot Room #1. Fluoride was detected in all the surficial chip samples at concentrations exceeding the USEPA Tapwater RSL and USEPA MCL, which is consistent with the first sampling effort. Fluoride concentrations in the 0-1-inch core before cleaning exceeded the USEPA Tapwater RSL and USEPA MCL in two of the three samples. Fluoride concentrations typically decreased by an order of magnitude in the core samples collected from 1-6 inches and the 0-6-inch core samples collected after cleaning, except for the core collected after cleaning at CFPR-01-GF-02. The anomalous result at this location is inconsistent with the other sampling core results; therefore, the core is being reanalyzed by the laboratory to assess for potential laboratory error.
- Metals were detected in most additional concrete leachate samples collected from Pot Room #1, similar to the first round of sampling. Metals including aluminum, antimony, barium, cobalt, and vanadium were detected at concentrations exceeding USEPA Tapwater RSLs but were not detected at concentrations exceeding USEPA

MCLs. Metals were typically detected at the highest concentrations in surficial chip samples and decreased in the core samples.

- VOCs including 2-hexanone, benzene, and methylene chloride were detected at concentrations exceeding USEPA Tapwater RSLs. Methylene chloride was detected at concentrations exceeding the USEPA MCL at each sample location. However, as noted above, methylene chloride is likely a lab artifact based on blank detections. Detected concentrations of VOCs did not vary with cleaning or with increasing depth.

### **Concrete Data Evaluation**

The results from both sampling efforts described above suggest that surficial concrete samples from the ground floor, walls, structural supports and basement floor contain concentrations of SVOCs, fluoride, cyanide, and metals that exceed the USEPA RSLs. In the case of fluoride, concentrations are present in the surface leachate samples that exceed the USEPA MCL.

As described above, the concrete core sampling was performed with the objective of evaluating if the concentrations in the surface of the concrete is significantly different than the results beneath the surface. The concrete that will potentially be used for backfill (i.e., the ground floor concrete and support structure concrete) will include more than just the surface concrete. The entire concrete ground floor is at least 6 inches thick and will be crushed and mixed before Calbag uses the concrete as backfill. Therefore, the six-inch concrete core would better represent the conditions of the concrete that would potentially be used as backfill.

The results of the concrete core sampling from 1 inch to 6 inches (prior to additional cleaning) indicate that concentrations typically decrease by an order of magnitude beneath the first inch of concrete. In order to further evaluate the potential concrete concentrations that would be observed across a depth of 0 to 6 inches without cleaning, a weighted average calculation was performed on the 0-1-inch core and 1-6-inch core samples. The attached Tables 15 through 19 include an additional column where weighted averages were computed for all samples with detections. The weighted average calculations indicate the following about the concrete core samples collected prior to the additional cleaning:

- Total SVOCs did not exceed USEPA Industrial RSLs and had limited exceedances of USEPA Residential RSLs (3 exceedances in core CFPR01-GF-01 and 1 exceedance in core CFPR01-GF-02);
- There were no exceedances of the USEPA MCLs in any SPLP samples from the three core locations (With exception of Methylene Chloride, which is likely due to laboratory contamination based upon method blank results); and
- There were a limited number of exceedances of USEPA Tapwater RSLs (i.e., free cyanide in 2 of 3 cores, naphthalene in 3 of 3 cores, and 1,1'-biphenyl in 1 of 3 cores).

- The weighted concentrations observed in the cores collected without surficial cleaning were also compared to the concentrations in the cores that were collected after cleaning. This comparison indicates that cleaning the concrete surface did not result in less exceedances of the USEPA Tapwater RSLs in leachate samples, demonstrating that surface cleaning would likely have an insignificant impact on the overall quality of the crushed concrete proposed to be used as subgrade backfill within the basements.

The overall results of the core analysis likely overstate the concentrations in the concrete that is to be used as backfill and remain in place after the demolition. Although some of the ground level flooring is 6 inches in depth, all the other concrete is greater than 6 inches in depth. The structural support hammerheads, which are anticipated to be crushed and used as fill, may be as thick as 18 inches. Based upon the coring analysis, concentrations deeper than 1-inch beneath the concrete surface are more than an order of magnitude lower than in the first inch. Therefore, a representative sample of hammerhead concrete would most likely have lower concentrations.

### **Recommended Path Forward**

As described above, surficial concrete chips are not representative of the overall quality of concrete that would potentially be left in place or utilized as backfill. Based on the results of the above weighted average evaluation, concentrations in the crushed concrete that would potentially be utilized for backfill, would be below USEPA Industrial RSLs when considering the entire concrete core from 0 to 6 inches beneath the surface. Additionally, the concentrations in water from concrete that could potentially leach once backfilled would be below USEPA MCLs. Although some of these concentrations slightly exceed certain USEPA RSLs, the concentrations determined from the weighted average are similar to, or less than, concentrations that currently exist beneath the Main Plant area based upon the groundwater sampling conducted as part of the Phase I Site Characterization sampling activities.

Also as described above, the results of the weighted concentration evaluation on the core samples collected prior to surficial cleaning, compared with the results of the cores collected after surficial cleaning indicate that cleaning the concrete surface did not result in less exceedances of the USEPA Tapwater RSLs in leachate samples. This demonstrates that additional surface cleaning of concrete would not likely have a significant impact on the overall quality of the concrete proposed to be crushed and used as backfill within the basements.

Based on the results and evaluation outlined in this letter, Roux Associates, on behalf of CFAC, respectfully requests that the ground floor and structural concrete from Pot Room #1 be approved for use as subgrade fill material as part of the ongoing Site demolition activities being performed by Calbag. Prior to use as backfill, the concrete would be broom-cleaned, removed from the building, and crushed. Additionally, moving forward, it is recommended that the data from analysis of surficial concrete chips not be used to evaluate the representativeness of concrete quality for use as subgrade backfill. Rather, following

Mr. Mike Cirian, P.E.

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discussion of this letter with USEPA and addressing any comments, it is recommended that an additional modification be submitted to outline use of concrete core sampling to evaluate the concrete in the remaining Pot Rooms.

Should there be any questions or comments on this submission, please do not hesitate to contact me at (631) 232-2600.

Sincerely,

ROUX ASSOCIATES, INC.

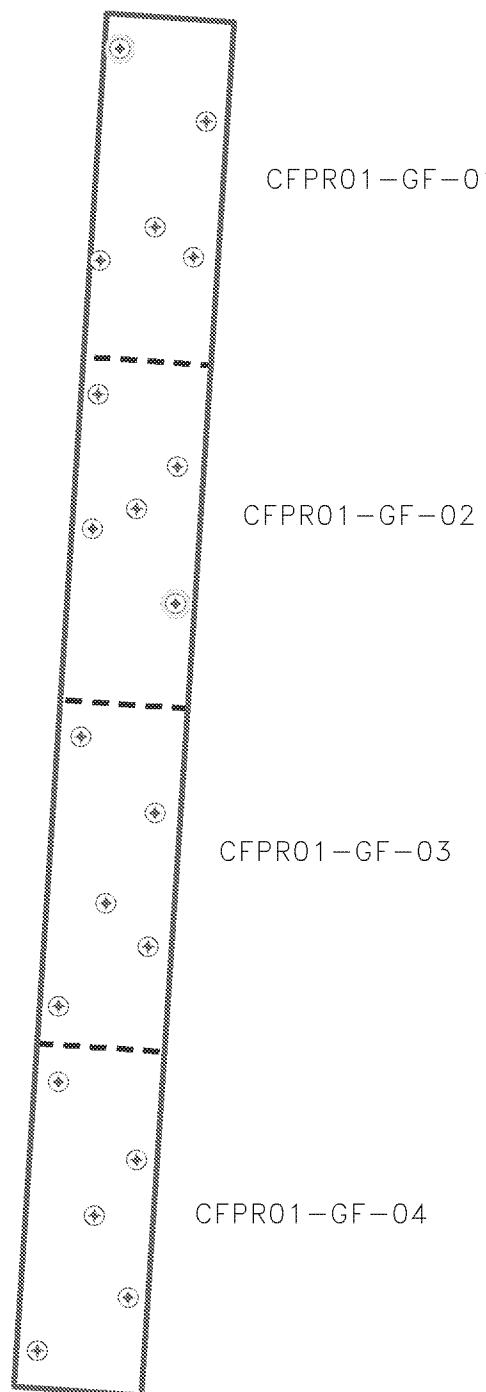
Michael Ritorto  
Principal Hydrogeologist/  
RI Manager

Andrew Baris  
Vice President/Principal Hydrogeologist  
RI/FS Manager

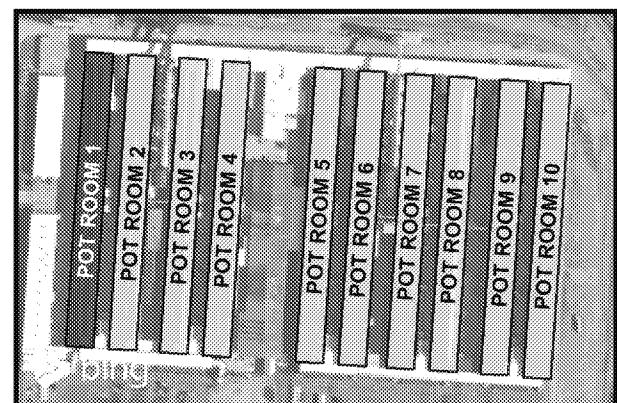
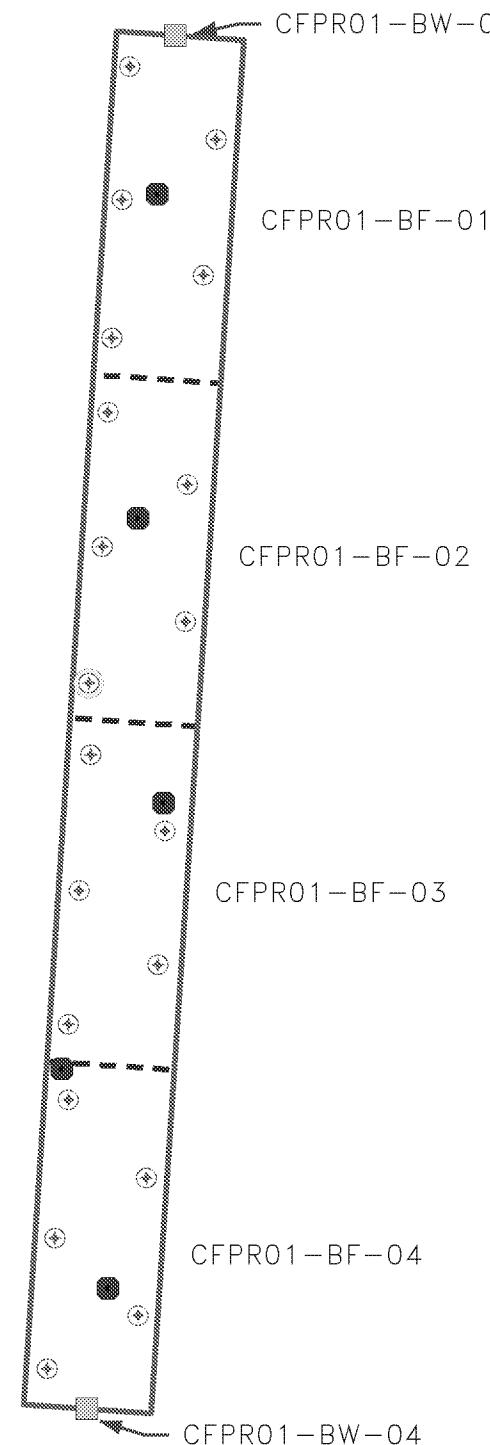
Attachment: Figure 1 – Pot Room #1 Concrete Sampling Locations  
Tables 1 - 9 – Pot Room #1 Concrete Analytical Results  
Tables 10 – 14 – Pot Room #1 Additional Concrete Analytical Results  
Tables 15-19 – Weighted Average Evaluations

cc: John Stroiazzo, Glencore  
Steve Wright, Columbia Falls Aluminum Company  
Lisa DeWitt, Montana Department of Environmental Quality  
Andrew Baris, Roux Associates

**Pot Room 1**  
**Ground Floor**



**Pot Room 1**  
**Basement**



**LEGEND**

- ⊕ APPROXIMATE CONCRETE COMPOSITE LOCATIONS
- INDICATES APPROXIMATE LOCATION OF CONCRETE CORE SAMPLE
- APPROXIMATE CONCRETE COMPOSITE SUPPORT STRUCTURE LOCATIONS
- APPROXIMATE POT ROOM SIDEWALL SAMPLE LOCATIONS
- POT ROOM 1
- - - POT ROOM DECISION UNIT BOUNDARY

**NOTE**

SUPPORT STRUCTURE COMPOSITE SAMPLE ID: CFPR01-SS

75 0 75 150  
Feet

Title:	
<b>POT ROOM 1 SAMPLE LOCATIONS</b>	
2000 ALUMINUM DRIVE COLUMBIA FALLS, MONTANA	
Prepared For:	
COLUMBIA FALLS ALUMINUM COMPANY, LLC	
Compiled by: M.R. Date: 15MAY17	
Prepared by: M.R. Scale: AS SHOWN	
Project Mgr: M.R. Project: 2476.0001Y002	
File: 2476.0001Y165.1.mxd	

**ROUX**  
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Environmental Consulting & Management

FIGURE 1

Notes Utilized Throughout Tables	
EPA	United States Environmental Protection Agency
Industrial RSL	United States Environmental Protection Agency Industrial Soil Regional Screening Level
Residential RSL	United States Environmental Protection Agency Residential Soil Regional Screening Level
EPA Drinking MCL	United States Environmental Protection Agency Risk Based Screening Level Drinking Water MCL
EPA Tapwater RSL	United States Environmental Protection Agency Risk Based Screening Level Tapwater RSL
µg/L	Micrograms per Liter
mg/kg	Milligrams per kilogram
B	The analyte was found in an associated method blank as well as in the sample
J-	Estimated Low Bias
J	Estimated value
J+	J+ -Estimated High Bias
T	LCS or LCSD is outside acceptance limits
D	A secondary analysis after dilution due to exceedance
U	Indicates that analyte was not detected at the limit reported

**Table 1. Summary of Metals in Surficial Broom-Cleaned Concrete**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Sample Location:				CFPR01-BF-01	CFPR01-BF-02	CFPR01-BF-03	CFPR01-BF-04	CFPR01-BW-01	CFPR01-BW-04	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-03	CFPR01-GF-04	CFPR01-SS
Sample Name:				PRF-01-005-C	PRF-01-006-C	PRF-01-007-C	PRF-01-008-C	PRW-01-002-C	PRW-01-001-C	PRF-01-004-C	PRF-01-003-C	PRF-01-002-C	PRF-01-001-C	PRS-01-001-C
Sample Date:				03/09/2017	03/09/2017	03/10/2017	03/10/2017	03/09/2017	03/09/2017	03/09/2017	03/09/2017	03/09/2017	03/09/2017	03/09/2017
Sample Type:				N	N	N	N	N	N	N	N	N	N	
Analyte	EPA Industrial Soil RSL	EPA Residential Soil RSL	Unit											
Arsenic	<b>3</b>	0.68	mg/kg	<b>3.1</b>	2.6	<b>5.4</b>	2.6	2.8	2.4	2	<b>3.7</b>	<b>5</b>	<b>6.5</b>	3
Barium	22000	1500	mg/kg	70.1	111	125	95.5	86.2	92.6	87	97	55	48.4	70.7
Cadmium	98	7.1	mg/kg	0.83 U	0.85 U	0.85 U	0.84 U	0.81 U	0.74 U	0.86 U	0.85 U	0.87 U	0.48 J	0.73 U
Chromium	--	--	mg/kg	10.3	13.7	27.9	11.5	10.5	12.3	9.3	12.8	8.3	10.1	9.1
Cyanide, Total	<b>15</b>	2.3	mg/kg	1.1	0.096 U	0.098 U	0.091 J	<b>32.1</b>	0.088 J	0.5	0.52	0.61	0.4	0.36
Lead	800	400	mg/kg	5	5.4	7.8	3.5	5.8	3.9	6.1	5.5	3.3	7.9	3.6
Mercury	4.6	1.1	mg/kg	0.016 U	0.016 U	0.017 U	0.016 U	0.016 J	0.016 U	0.018 U	0.017 U	0.013 J	0.017 U	0.017 U
Selenium	580	39	mg/kg	4.1 U	4.2 U	4.3 U	4.2 U	4.1 U	3.7 U	4.3 U	4.2 U	4.3 U	4.3 U	3.6 U
Silver	580	39	mg/kg	0.83 U	0.85 U	0.85 U	0.84 U	0.81 U	0.74 U	0.86 U	0.85 U	0.87 U	2.9	0.73 U

Bold data indicates that parameter was detected above the EPA Residential Soil RSLs

Shaded data indicates that parameter was detected above the EPA Industrial Soil RSLs

**Table 2. Summary of Polychlorinated Biphenyls in Surficial Broom-Cleaned Concrete  
Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Sample Location Sample Name Sample Date Sample Type				CFPR01-BF-01	CFPR01-BF-02	CFPR01-BF-03	CFPR01-BF-04	CFPR01-BW-01	CFPR01-BW-04	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-03	CFPR01-GF-04	CFPR01-SS
				PRF-01-005-C	PRF-01-006-C	PRF-01-007-C	PRF-01-008-C	PRW-01-002-C	PRW-01-001-C	PRF-01-004-C	PRF-01-003-C	PRF-01-002-C	PRF-01-001-C	PRS-01-001-C
				03/09/2017	03/09/2017	03/10/2017	03/10/2017	03/09/2017	03/09/2017	03/09/2017	03/09/2017	03/09/2017	03/09/2017	03/09/2017
				N	N	N	N	N	N	N	N	N	N	N
Analyte	EPA Industrial Soil RSL	EPA Residential Soil RSL	Unit											
Aroclor 1016	5.1	0.41	mg/kg	0.068 U	0.071 U	0.071 U	0.072 U	0.071 U	0.068 U					
Aroclor 1221	0.83	0.2	mg/kg	0.068 U	0.071 U	0.071 U	0.072 U	0.071 U	0.068 U					
Aroclor 1232	0.72	0.17	mg/kg	0.068 U	0.071 U	0.071 U	0.072 U	0.071 U	0.068 U					
Aroclor 1242	0.95	0.23	mg/kg	0.068 U	0.071 U	0.071 U	0.072 U	0.071 U	0.068 U					
Aroclor 1248	0.95	0.23	mg/kg	0.068 U	0.071 U	0.071 U	0.072 U	0.071 U	0.068 U					
Aroclor 1254	0.97	0.12	mg/kg	0.077	0.69	0.099	0.035 J	0.045 J	0.54	0.071 U	0.071 U	0.072 U	0.071 U	0.068 U
Aroclor 1260	0.99	0.24	mg/kg	0.068 U	0.071 U	0.071 U	0.072 U	0.071 U	0.068 U					
Aroclor 1268	--	--	mg/kg	0.068 U	0.071 U	0.071 U	0.072 U	0.071 U	0.068 U					
Aroclor-1262	--	--	mg/kg	0.068 U	0.071 U	0.071 U	0.072 U	0.071 U	0.068 U					
Polychlorinated biphenyls, Total	0.94	0.23	mg/kg	0.077	0.69	0.099	0.035 J	0.045 J	0.54	0.071 U	0.071 U	0.072 U	0.071 U	0.068 U

Bold data indicates that parameter was detected above the EPA Residential Soil RSLs

Shaded data indicates that parameter was detected above the EPA Industrial Soil RSLs

**Table 3. Summary of General Chemistry in Surficial Broom-Cleaned Concrete  
Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Sample Location				CFPR01-BF-01	CFPR01-BF-02	CFPR01-BF-03	CFPR01-BF-04	CFPR01-BW-01	CFPR01-BW-04	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-03	CFPR01-GF-04	CFPR01-SS	
				Sample Name	PRF-01-005-C	PRF-01-006-C	PRF-01-007-C	PRF-01-008-C	PRW-01-002-C	PRW-01-001-C	PRF-01-004-C	PRF-01-003-C	PRF-01-002-C	PRF-01-001-C	PRS-01-001-C
				Sample Date	03/09/2017	03/09/2017	03/10/2017	03/10/2017	03/09/2017	03/09/2017	03/09/2017	03/09/2017	03/09/2017	03/09/2017	
				Sample Type	N	N	N	N	N	N	N	N	N	N	
Analyte	EPA Industrial Soil RSL	EPA Residential Soil RSL	Unit												
Fluoride	4700	310	mg/kg	239 D	402 D	432 D	171 D	146 D	54.1 D	32.8	625 DT	81.2 D	62.7 J-	380 D	

Bold data indicates that parameter was detected above the EPA Residential Soil RSLs

Shaded data indicates that parameter was detected above the EPA Industrial Soil RSLs

**Table 4. Summary of Semivolatile Organic Compounds in Surficial Broom-Cleaned Concrete**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	Sample Designation:			CFPR01-BF-01	CFPR01-BF-02	CFPR01-BF-03	CFPR01-BF-04	CFPR01-BW-01	CFPR01-BW-04	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-03	CFPR01-GF-04	CFPR01-SS
	Sample Date:			3/9/2017	3/9/2017	3/9/2017	3/9/2017	3/10/2017	3/9/2017	3/10/2017	3/10/2017	3/10/2017	3/10/2017	3/9/2017
	Sample Type:			N	N	N	N	N	N	N	N	N	N	N
Analyte	EPA Residential Soil RSL	EPA Industrial Soil RSL	Unit											
1,1'-Biphenyl	4.7	20	mg/kg	0.029 U	0.15 U	0.031 U	0.031 U	0.029 U	0.029 U	0.057 U	0.029 U	0.029 U	0.1 J	0.029 U
1,2,4,5-Tetrachlorobenzene	2.3	35	mg/kg	0.026 U	0.13 U	0.027 U	0.027 U	0.025 U	0.025 U	0.05 U	0.025 U	0.025 U	0.025 U	0.025 U
1,4-Dioxane	5.3	24	mg/kg	0.092 U	0.48 U	0.097 U	0.096 U	0.09 U	0.09 U	0.18 U	0.09 U	0.091 U	0.091 U	0.09 U
2,2'-oxybis[1-chloropropane]	310	4700	mg/kg	0.014 UJ	0.074 U	0.015 U	0.015 UJ	0.014 U	0.014 UJ	0.028 U	0.014 U	0.014 U	0.014 U	0.014 UJ
2,3,4,6-Tetrachlorophenol	190	2500	mg/kg	0.032 U	0.17 U	0.034 U	0.034 U	0.032 U	0.032 U	0.063 U	0.032 U	0.032 U	0.032 U	0.032 U
2,4,5-Trichlorophenol	630	8200	mg/kg	0.034 U	0.18 U	0.036 U	0.036 U	0.033 U	0.033 U	0.067 U	0.034 U	0.034 U	0.034 U	0.033 U
2,4,6-Trichlorophenol	6.3	82	mg/kg	0.0098 U	0.051 U	0.01 U	0.01 U	0.0095 U	0.0095 U	0.019 U	0.0096 U	0.0096 U	0.0096 U	0.0095 U
2,4-Dichlorophenol	19	250	mg/kg	0.0081 U	0.043 U	0.0086 U	0.0084 U	0.0079 U	0.0079 U	0.016 U	0.008 U	0.008 U	0.008 U	0.0079 U
2,4-Dimethylphenol	130	1600	mg/kg	0.076 U	0.4 U	0.08 U	0.079 U	0.074 U	0.074 U	0.15 U	0.074 U	0.074 U	0.075 U	0.074 U
2,4-Dinitrophenol	13	160	mg/kg	0.26 U	1.4 U	0.28 U	0.27 U	0.25 U	0.25 U	0.51 U	0.25 UJ	0.26 UJ	0.26 UJ	0.25 U
2,4-Dinitrotoluene	1.7	7.4	mg/kg	0.014 U	0.072 U	0.014 U	0.014 U	0.013 U	0.013 U	0.027 U	0.013 U	0.013 U	0.013 U	0.013 U
2,6-Dinitrotoluene	0.36	1.5	mg/kg	0.018 U	0.096 U	0.019 U	0.019 U	0.018 U	0.018 U	0.036 U	0.018 U	0.018 U	0.018 U	0.018 U
2-Chloronaphthalene	480	6000	mg/kg	0.0078 U	0.041 U	0.0083 U	0.0081 U	0.0076 U	0.0076 U	0.015 U	0.0076 U	0.0077 U	0.0077 U	0.0076 U
2-Chlorophenol	39	580	mg/kg	0.0087 U	0.046 U	0.0092 U	0.0091 U	0.0085 U	0.0085 U	0.017 U	0.0086 U	0.0086 U	0.0086 U	0.0085 U
2-Methylnaphthalene	24	300	mg/kg	0.0076 U	0.04 U	0.008 U	0.0079 U	0.0074 U	0.0074 U	0.015 U	0.0074 U	0.0075 U	0.56	0.011 J
2-Methylphenol	320	4100	mg/kg	0.015 U	0.079 U	0.016 U	0.016 U	0.015 U	0.015 U	0.029 U	0.015 U	0.015 U	0.015 U	0.015 U
2-Nitroaniline	63	800	mg/kg	0.011 U	0.06 U	0.012 U	0.012 U	0.011 U	0.011 U	0.022 U	0.011 UJ	0.011 UJ	0.011 UJ	0.011 U
2-Nitrophenol	--	--	mg/kg	0.012 U	0.061 U	0.012 U	0.012 U	0.011 U	0.011 U	0.023 U	0.011 U	0.011 U	0.011 U	0.011 U
3 & 4 Methylphenol	--	--	mg/kg	0.0092 U	0.048 U	0.0097 U	0.0095 U	0.0089 U	0.0089 U	0.018 U	0.009 U	0.009 U	0.009 U	0.0089 U
3,3'-Dichlorobenzidine	1.2	5.1	mg/kg	0.038 U	0.2 U	0.041 U	0.04 U	0.037 U	0.037 U	0.075 U	0.038 U	0.038 U	0.038 U	0.037 U
3-Nitroaniline	--	--	mg/kg	0.01 U	0.054 U	0.011 U	0.011 U	0.0099 U	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U
4,6-Dinitro-2-methylphenol	0.51	6.6	mg/kg	0.092 U	0.48 U	0.097 U	0.096 U	0.089 U	0.09 U	0.18 U	0.09 U	0.09 U	0.09 U	0.09 U
4-Bromophenyl phenyl ether	--	--	mg/kg	0.011 U	0.057 U	0.011 U	0.011 U	0.011 U	0.011 U	0.021 U	0.011 U	0.011 U	0.011 U	0.011 U
4-Chloro-3-methylphenol	630	8200	mg/kg	0.015 U	0.078 U	0.016 U	0.015 U	0.014 U	0.014 U	0.029 U	0.014 U	0.015 U	0.015 U	0.014 U
4-Chloroaniline	2.7	11	mg/kg	0.0088 U	0.046 U	0.0094 U	0.0092 U	0.0086 U	0.0086 U	0.017 U	0.0087 U	0.0087 U	0.0087 U	0.0086 U
4-Chlorophenyl phenyl ether	--	--	mg/kg	0.01 U	0.054 U	0.011 U	0.011 U	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Nitroaniline	25	110	mg/kg	0.013 U	0.068 U	0.014 UJ	0.014 U	0.013 UJ	0.013 U	0.025 U	0.013 UJ	0.013 UJ	0.013 UJ	0.013 U
4-Nitrophenol	--	--	mg/kg	0.17 U	0.87 U	0.18 U	0.17 U	0.16 U	0.16 U	0.32 U	0.16 U	0.16 U	0.16 U	0.16 U
Acenaphthene	360	4500	mg/kg	0.011 J	0.044 U	0.0088 U	0.0087 U	0.0081 U	0.0081 U	0.029 J	0.012 J	0.0082 U	0.39	0.016 J
Acenaphthylene	--	--	mg/kg	0.0088 U	0.046 U	0.0094 U	0.0092 U	0.0086 U	0.0086 U	0.017 U	0.0087 U	0.0087 U	0.0087 U	0.0086 U
Acetophenone	780	12000	mg/kg	0.0075 U	0.039 U	0.0079 U	0.0078 U	0.0073 U	0.0073 U	0.015 U	0.0073 U	0.0074 U	0.0074 U	0.0074 J
Anthracene	1800	23000	mg/kg	0.033 U	0.17 U	0.035 U	0.034 U	0.032 U	0.032 U	0.064 U	0.032 U	0.032 U	0.3 J	0.083 J
Atrazine	2.4	10	mg/kg	0.015 U	0.08 U	0.016 U	0.016 U	0.015 U	0.015 U	0.03 U	0.015 U	0.015 U	0.015 U	0.015 U
Benzaldehyde	170	820	mg/kg	0.026 U	0.14 U	0.028 U	0.027 U	0.026 U	0.026 U	0.051 U	0.026 U	0.026 U	0.026 U	0.026 U
Benzo[a]anthracene	0.16	2.9	mg/kg	0.28	7.3	0.31	0.12	0.028 U	0.028 U	1.3	0.69	0.66	1.6	1.8
Benzo[a]pyrene	0.016	0.29	mg/kg	0.29	5.1	0.19	0.069	0.01 U	0.01 U	0.72	0.37	0.28	1.4	3.9
Benzo[b]fluoranthene	0.16	2.9	mg/kg	0.77	20	1.1	0.39	0.059	0.016 J	3.7	2	1.9	3.7	4.5
Benzo[g,h,i]perylene	--	--	mg/kg	0.46	5.7	0.25 J	0.13 J	0.019 U	0.019 U	1.3	0.57	0.52	1.5	5.8
Benzo[k]fluoranthene	1.6	29	mg/kg	0.31	5.7	0.32	0.13	0.015 U	0.015 U	1	0.54	0.6	1.2	1.8
Bis(2-chloroethoxy)methane	19	250	mg/kg	0.011 U	0.056 U	0.011 U	0.011 U	0.01 U	0.01 U	0.021 U	0.011 U	0.011 U	0.011 U	0.01 U
Bis(2-chloroethyl)ether	0.23	1	mg/kg	0.0081 U	0.043 U	0.0086 U	0.0084 U	0.0079 U	0.0079 U	0.016 U	0.008 U	0.008 U	0.008 U	0.0079 U
Bis(2-ethylhexyl) phthalate	39													

**Table 4. Summary of Semivolatile Organic Compounds in Surficial Broom-Cleaned Concrete  
Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	Sample Designation:			CFPR01-BF-01	CFPR01-BF-02	CFPR01-BF-03	CFPR01-BF-04	CFPR01-BW-01	CFPR01-BW-04	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-03	CFPR01-GF-04	CFPR01-SS
	Sample Date:			3/9/2017	3/9/2017	3/9/2017	3/9/2017	3/10/2017	3/9/2017	3/10/2017	3/10/2017	3/10/2017	3/10/2017	3/9/2017
	Sample Type:			N	N	N	N	N	N	N	N	N	N	N
Analyte	EPA Residential Soil RSL	EPA Industrial Soil RSL	Unit											
1,1'-Biphenyl	4.7	20	mg/kg	0.029 U	0.15 U	0.031 U	0.031 U	0.029 U	0.029 U	0.057 U	0.029 U	0.029 U	0.1 J	0.029 U
1,2,4,5-Tetrachlorobenzene	2.3	35	mg/kg	0.026 U	0.13 U	0.027 U	0.027 U	0.025 U	0.025 U	0.05 U	0.025 U	0.025 U	0.025 U	0.025 U
Carbazole	--	--	mg/kg	0.19 J	0.27 J	0.32 J	0.13 J	0.052 J	0.02 J	1.7	0.59	0.62	1.1	0.16 J
Chrysene	16	290	mg/kg	0.75	12	1.3	0.54	0.17 J	0.068 J	4.5	2.1	2.3	3.8	2.7
Dibenz(a,h)anthracene	<b>0.016</b>	0.29	mg/kg	0.11	<b>2.1</b>	0.071	0.027 J	0.017 U	0.017 U	<b>0.33</b>	0.17	0.19	<b>0.45</b>	<b>1.3</b>
Dibenzofuran	7.3	100	mg/kg	0.01 U	0.055 U	0.011 U	0.011 U	0.01 U	0.01 U	0.024 J	0.01 U	0.01 U	0.12 J	0.023 J
Diethyl phthalate	5100	66000	mg/kg	0.0098 U	0.051 U	0.01 UJ	0.01 U	0.0095 UJ	0.0095 U	0.019 U	0.0096 U	0.0096 U	0.0096 U	0.0095 U
Dimethyl phthalate	--	--	mg/kg	0.01 U	0.052 U	0.011 U	0.01 U	0.0097 U	0.0097 U	0.02 U	0.0098 U	0.0098 U	0.0098 U	0.0097 U
Di-n-butyl phthalate	630	8200	mg/kg	0.01 U	0.054 U	0.011 UJ	0.011 U	0.01 UJ	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	0.01 U
Di-n-octyl phthalate	63	820	mg/kg	0.017 U	0.092 UJ	0.018 U	0.018 U	0.017 U	0.017 U	0.034 UJ	0.017 U	0.017 U	0.017 U	0.017 U
Fluoranthene	240	3000	mg/kg	1.4	3.7	2.6	1	0.89	0.33 J	11	4.5	4.4	7.9	2.5
Fluorene	240	3000	mg/kg	0.0075 U	0.039 U	0.0079 U	0.0078 U	0.0073 U	0.0073 U	0.019 J	0.0073 U	0.0074 U	0.031 J	0.0086 J
Hexachlorobenzene	0.21	0.96	mg/kg	0.014 U	0.073 U	0.015 U	0.015 U	0.014 U	0.014 U	0.027 U	0.014 U	0.014 U	0.014 U	0.014 U
Hexachlorobutadiene	1.2	5.3	mg/kg	0.0097 U	0.051 U	0.01 U	0.01 U	0.0094 U	0.0094 U	0.019 U	0.0095 U	0.0095 U	0.0095 U	0.0094 U
Hexachlorocyclopentadiene	0.18	0.75	mg/kg	0.021 U	0.11 U	0.023 U	0.022 U	0.021 U	0.021 U	0.042 U	0.021 U	0.021 U	0.021 U	0.021 U
Hexachloroethane	1.8	8	mg/kg	0.013 U	0.066 U	0.013 U	0.013 U	0.012 U	0.012 U	0.025 U	0.012 U	0.012 U	0.012 U	0.012 U
Indeno[1,2,3-cd]pyrene	<b>0.16</b>	2.9	mg/kg	0.41	<b>5.6</b>	0.26	0.14	0.022 U	0.022 U	1.4	0.6	0.58	1.6	<b>5.3</b>
Isophorone	570	2400	mg/kg	0.046 J	0.12 J	0.013 J	0.029 J	0.033 J	0.02 J	0.66	0.0072 U	0.17	0.37	0.0072 U
Naphthalene	3.8	17	mg/kg	0.0087 U	0.046 U	0.0092 U	0.0091 U	0.0085 U	0.0085 U	0.017 U	0.0086 U	0.0086 U	0.099 J	0.014 J
Nitrobenzene	5.1	22	mg/kg	0.011 U	0.057 U	0.011 U	0.011 U	0.011 U	0.011 U	0.021 U	0.011 U	0.011 U	0.011 U	0.011 U
N-Nitrosodi-n-propylamine	0.078	0.33	mg/kg	0.012 U	0.061 U	0.012 U	0.012 U	0.011 U	0.011 U	0.023 U	0.011 U	0.011 U	0.011 U	0.011 U
N-Nitrosodiphenylamine	110	470	mg/kg	0.031 U	0.16 U	0.033 U	0.032 U	0.03 U	0.03 U	0.061 U	0.031 U	0.031 U	0.031 U	0.03 U
Pentachlorophenol	1	4	mg/kg	0.042 U	0.22 U	0.044 U	0.043 U	0.041 U	0.041 U	0.081 U	0.041 UJ	0.041 UJ	0.041 UJ	0.041 U
Phenanthrene	--	--	mg/kg	0.5	0.67 J	0.67	0.24 J	0.33	0.12 J	2.7	1.3	1.1	4.4	0.9
Phenol	1900	25000	mg/kg	0.011 U	0.059 U	0.012 U	0.012 U	0.011 U	0.011 U	0.025 J	0.011 U	0.011 U	0.025 J	0.011 U
Pyrene	180	2300	mg/kg	0.85	4	1.4	0.53	0.15 J	0.035 J	4.4	3.2	3.4	5.9	2.1

Bold data indicates that parameter was detected above the EPA Residential Soil RSLs

Shaded data indicates that parameter was detected above the EPA Industrial Soil RSLs

**Table 5. Summary of Volatile Organic Compounds in Surficial Broom-Cleaned Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit	Sample Designation:		CFPR01-BF-01	CFPR01-BF-02	CFPR01-BF-03	CFPR01-BF-04	CFPR01-BW-01	CFPR01-BW-04	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-03	CFPR01-GF-04	CFPR01-SS
				Sample Date:	3/9/2017	3/9/2017	3/9/2017	3/9/2017	3/10/2017	3/9/2017	3/10/2017	3/10/2017	3/10/2017	3/10/2017	3/9/2017	
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
1,1,1-Trichloroethane	200	800	ug/l	0.28 U	0.28 U	0.28 U	0.28 U	0.28 UJ	0.28 U	0.28 U						
1,1,2,2-Tetrachloroethane	--	--	ug/l	0.19 U	0.19 U	0.19 U	0.19 U	0.19 UJ	0.19 U	0.19 U						
1,1,2-Trichloro-1,2,2-trifluoroethane	--	5500	ug/l	0.34 UJ	0.34 UJ	0.34 U	0.34 U	0.34 UJ	0.34 U	0.34 U						
1,1,2-Trichloroethane	--	--	ug/l	0.08 U	0.08 U	0.08 U	0.08 U	0.08 UJ	0.08 U	0.08 U						
1,1-Dichloroethane	--	2.8	ug/l	0.24 U	0.24 U	0.24 U	0.24 U	0.24 UJ	0.24 U	0.24 U						
1,1-Dichloroethene	--	--	ug/l	0.34 U	0.34 U	0.34 U	0.34 U	0.34 UJ	0.34 U	0.34 U						
1,2,3-Trichlorobenzene	--	0.7	ug/l	0.35 U	0.35 U	0.35 U	0.35 U	0.35 UJ	0.35 U	0.35 U						
1,2,4-Trichlorobenzene	--	0.4	ug/l	0.27 U	0.27 U	0.27 U	0.27 U	0.27 UJ	0.27 U	0.27 U						
1,2-Dibromo-3-Chloropropane	0.2	0.00033	ug/l	0.23 U	0.23 U	0.23 U	0.23 U	0.23 UJ	0.23 U	0.23 U						
1,2-Dichlorobenzene	600	30	ug/l	0.22 U	0.22 U	0.22 U	0.22 U	0.22 UJ	0.22 U	0.22 U						
1,2-Dichloroethane	5	0.17	ug/l	0.25 U	0.25 U	0.25 U	0.25 U	0.25 UJ	0.25 U	0.25 U						
1,2-Dichloropropane	5	0.44	ug/l	0.18 U	0.18 U	0.18 U	0.18 U	0.18 UJ	0.18 U	0.18 U						
1,3-Dichlorobenzene	--	--	ug/l	0.33 U	0.33 U	0.33 U	0.33 U	0.33 UJ	0.33 U	0.33 U						
1,4-Dichlorobenzene	75	0.48	ug/l	0.33 U	0.33 U	0.33 U	0.33 U	0.33 UJ	0.33 U	0.33 U						
2-Butanone (MEK)	--	560	ug/l	2.2 U	2.2 U	2.2 U	2.2 U	9.5 J-	3.1 J	2.2 U	5.9	2.2 U	2.6 J	2.2 U	2.6 J	2.2 U
2-Hexanone	--	3.8	ug/l	0.72 U	0.72 U	0.72 U	0.72 U	4.1 J-	2.3 J	3.8 J	4 J	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
4-Methyl-2-pentanone (MIBK)	--	630	ug/l	0.63 U	0.63 U	0.63 U	0.63 U	2.3 J-	1 J	1 J	1.3 J	0.63 U	1 J	0.63 U	1 J	0.63 U
Acetone	--	1400	ug/l	12	1.1 U	30	20	61 J-	23	33	36	35	22	15		
Benzene	5	0.46	ug/l	0.19 U	0.19 U	0.19 U	0.19 U	0.19 UJ	0.19 U	0.44 J	0.59 J	0.4 J	0.19 U	0.21 J		
Bromoform	80	3.3	ug/l	0.18 U	0.18 U	0.18 U	0.18 U	0.18 UJ	0.18 U	0.18 U						
Bromomethane	--	0.75	ug/l	0.18 U	0.18 U	0.18 U	0.18 U	0.18 UJ	0.18 U	0.18 U						
Carbon disulfide	--	81	ug/l	0.22 U	0.22 U	0.22 U	0.22 U	0.22 UJ	0.22 U	0.22 U						
Carbon tetrachloride	5	0.46	ug/l	0.33 U	0.33 U	0.33 U	0.33 U	0.33 UJ	0.33 U	0.33 U						
Chlorobenzene	7.8	100	ug/l	0.24 U	0.24 U	0.24 U	0.24 U	0.24 UJ	0.24 U	0.24 U						
Chlorobromomethane	--	8.3	ug/l	0.3 U	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U	0.3 U						
Chlorodibromomethane	80	0.87	ug/l	0.22 U	0.22 U	0.22 U	0.22 U	0.22 UJ	0.22 U	0.22 U						
Chloroethane	--	2100	ug/l	0.37 U	0.37 U	0.37 U	0.37 U	0.37 UJ	0.37 U	0.37 U						
Chloroform	80	0.22	ug/l	0.22 U	0.22 U	0.22 U	0.22 U	0.22 UJ	0.22 U	0.22 U						
Chloromethane	--	19	ug/l	0.22 U	0.22 U	0.22 U	0.22 U	0.22 UJ	0.22 U	0.22 U						
cis-1,2-Dichloroethene	--	--	ug/l	0.26 U	0.26 U	0.26 U	0.26 U	0.26 UJ	0.26 U	0.26 U						
cis-1,3-Dichloropropene	--	--	ug/l	0.16 U	0.16 U	0.16 U	0.16 U	0.16 UJ	0.16 U	0.16 U						
Cyclohexane	--	1300	ug/l	0.26 U	0.26 U	0.26 U	0.26 U	0.26 UJ	0.26 U	0.26 U						
Dichlorobromomethane	80	0.13	ug/l	0.15 U	0.15 U	0.15 U	0.15 U	0.15 UJ	0.15 U	0.15 U						
Dichlorodifluoromethane	--	20	ug/l	0.14 UJ	0.14 UJ	0.14 U	0.14 U	0.14 UJ	0.14 U	0.14 U						
Ethylbenzene	700	1.5	ug/l	0.3 U	0.3 U	0.3 U	0.3 U	0.3 UJ	0.3 U	0.4 J	0.47 J	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Ethylene Dibromide	--	--	ug/l	0.19 U	0.19 U	0.19 U	0.19 U	0.19 UJ	0.19 U	0.19 U						
Isopropylbenzene	--	--	ug/l	0.32 U	0.32 U	0.32 U	0.32 U	0.32 UJ	0.32 U	0.32 U						
Methyl acetate	--	2000	ug/l	0.58 U	0.58 U	0.58 U	0.58 U	0.58 UJ	0.58 U	0.58 U						
Methyl tert-butyl ether	--	14	ug/l	0.13 U	0.13 U	0.13 U	0.13 U	0.13 UJ	0.13 U	0.13 U	0.13 U	0.13 U	0.1			

**Table 5. Summary of Volatile Organic Compounds in Surficial Broom-Cleaned Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	Sample Designation:			CFPR01-BF-01	CFPR01-BF-02	CFPR01-BF-03	CFPR01-BF-04	CFPR01-BW-01	CFPR01-BW-04	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-03	CFPR01-GF-04	CFPR01-SS
	Sample Date:			3/9/2017	3/9/2017	3/9/2017	3/9/2017	3/10/2017	3/9/2017	3/10/2017	3/10/2017	3/10/2017	3/10/2017	3/9/2017
	Sample Type:			N	N	N	N	N	N	N	N	N	N	N
	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit											
1,1,1-Trichloroethane	200	800	ug/l	0.28 U	0.28 U	0.28 U	0.28 U	0.28 UJ	0.28 U	0.28 U				
m-Xylene & p-Xylene	--	--	ug/l	0.28 U	0.28 U	0.28 U	0.28 U	0.74 J-	0.6 J	2	1.9 J	0.62 J	0.28 U	0.32 J
o-Xylene	--	19	ug/l	0.32 U	0.32 U	0.32 U	0.32 U	0.44 J-	0.32 U	1.3	0.91 J	0.32 U	0.32 U	0.32 U
Styrene	100	120	ug/l	0.23 J	0.2 J	0.17 U	0.17 U	0.17 UJ	0.17 U	0.17 U	0.4 J	0.17 U	0.17 U	0.23 J
Tetrachloroethene	--	--	ug/l	0.36 U	0.36 U	0.36 U	0.36 U	0.36 UJ	0.36 U	0.36 U				
Toluene	1000	110	ug/l	0.25 U	0.25 U	0.25 U	0.25 U	0.36 J-	0.45 J	0.52 J	0.99 J	0.97 J	0.25 U	0.25 U
trans-1,2-Dichloroethene	--	--	ug/l	0.18 U	0.18 U	0.18 U	0.18 U	0.18 UJ	0.18 U	0.18 U				
trans-1,3-Dichloropropene	--	--	ug/l	0.19 U	0.19 U	0.19 U	0.19 U	0.19 UJ	0.19 U	0.19 U				
Trichloroethene	--	--	ug/l	0.22 U	0.22 U	0.22 U	0.22 U	0.22 UJ	0.22 U	0.22 U				
Trichlorofluoromethane	--	520	ug/l	0.15 U	0.15 U	0.15 U	0.15 U	0.15 UJ	0.15 U	0.15 U				
Vinyl chloride	2	0.019	ug/l	0.2 U	0.2 U	0.2 U	0.2 U	0.2 UJ	0.2 U	0.2 U				

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 6. Summary of Semivolatile Organic Compounds in Surficial Broom-Cleaned Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	Sample Designation:			CFPR01-BF-01	CFPR01-BF-02	CFPR01-BF-03	CFPR01-BF-04	CFPR01-BW-01	CFPR01-BW-04	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-03	CFPR01-GF-04	CFPR01-SS
	Sample Date:			3/9/2017	3/9/2017	3/9/2017	3/9/2017	3/10/2017	3/9/2017	3/10/2017	3/10/2017	3/10/2017	3/10/2017	3/9/2017
	Sample Type:			N	N	N	N	N	N	N	N	N	N	N
EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit												
1,1'-Biphenyl	--	0.083	ug/l	1.2 J	0.72 J	0.63 U	0.63 U	0.63 U	0.63 U	1.1 J	0.63 U	0.68 J	3.3 J	0.75 J
1,2,4,5-Tetrachlorobenzene	--	0.17	ug/l	0.43 U	0.43 U									
1,4-Dioxane	--	0.46	ug/l	3.1 U	3.1 U									
2,2'-oxybis[1-chloropropane]	--	--	ug/l	0.93 U	0.93 U									
2,3,4,6-Tetrachlorophenol	--	24	ug/l	0.69 U	0.69 U									
2,4,5-Trichlorophenol	--	120	ug/l	0.49 U	0.49 U									
2,4,6-Trichlorophenol	--	1.2	ug/l	0.53 U	0.53 U									
2,4-Dichlorophenol	--	4.6	ug/l	0.63 U	0.63 U									
2,4-Dimethylphenol	--	36	ug/l	0.91 U	0.91 U									
2,4-Dinitrophenol	--	3.9	ug/l	2.4 U	2.4 U									
2,4-Dinitrotoluene	--	0.24	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
2,6-Dinitrotoluene	--	0.049	ug/l	0.88 U	0.88 U									
2-Chloronaphthalene	--	--	ug/l	0.61 U	0.61 U									
2-Chlorophenol	--	9.1	ug/l	0.74 U	0.74 U									
2-Methylnaphthalene	--	3.6	ug/l	12	4.1 J+	0.88 U	0.88 U	1.2 J	0.88 U	3 J	1.3 J	5.4 J	25	6.1 J
2-Methylphenol	--	--	ug/l	1.3 U	1.3 U									
2-Nitroaniline	--	19	ug/l	0.65 U	0.65 U									
2-Nitrophenol	--	--	ug/l	0.59 U	0.59 UJ	0.59 UJ	0.59 U	0.59 U						
3 & 4 Methylphenol	--	--	ug/l	0.88 UJ	0.88 U	0.88 U	0.88 U	0.88 U	0.88 UJ	0.88 U	0.88 U	0.88 U	0.88 U	3.3 J-
3,3'-Dichlorobenzidine	--	0.13	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
3-Nitroaniline	--	--	ug/l	0.82 U	0.82 U									
4,6-Dinitro-2-methylphenol	--	--	ug/l	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
4-Bromophenyl phenyl ether	--	--	ug/l	1 U	1 UJ	1 UJ	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
4-Chloro-3-methylphenol	--	--	ug/l	0.76 U	0.76 U									
4-Chloroaniline	--	0.37	ug/l	0.73 U	0.73 U									
4-Chlorophenyl phenyl ether	--	--	ug/l	0.96 U	0.96 U									
4-Nitroaniline	--	3.8	ug/l	0.48 U	0.48 U									
4-Nitrophenol	--	--	ug/l	4.7 U	4.7 U									
Acenaphthene	--	53	ug/l	1.3 J	1.8 J	0.88 U	1.6 J	7.4 J						
Acenaphthylene	--	--	ug/l	0.65 U	0.65 U									
Acetophenone	--	190	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1.3 J	1 U	1 U	1 U	1 U
Anthracene	--	180	ug/l	0.57 U	0.57 U									
Atrazine	3	0.3	ug/l	0.77 U	0.77 U									
Benzaldehyde	--	190	ug/l	0.86 U	0.86 U									
Benzo[a]anthracene	--	--	ug/l	0.55 U	0.55 U									
Benzo[a]pyrene	0.2	0.0034	ug/l	0.16 U	0.16 U									
Benzo[b]fluoranthene	--	0.034	ug/l	0.44 U	0.44 U									
Benzo[g,h,i]perylene	--	--	ug/l	0.75 U	0.75 U									
Benzo[k]fluoranthene	--	0.34	ug/l	0.18 U	0.18 U									
Bis(2-chloroethoxy)methane	--	5.9	ug/l	0.69 U	0.69 U									
Bis(2-chloroethyl)ether	--	0.014	ug/l	0.12 U	0.12 U									
Bis(2-ethylhexyl) phthalate	5.6	6	ug/l	0.72 U	0.72 U	0.72 U	2.2	0.76 J	1.1 J	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U

**Table 6. Summary of Semivolatile Organic Compounds in Surficial Broom-Cleaned Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	Sample Designation:			CFPR01-BF-01	CFPR01-BF-02	CFPR01-BF-03	CFPR01-BF-04	CFPR01-BW-01	CFPR01-BW-04	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-03	CFPR01-GF-04	CFPR01-SS
	Sample Date:			3/9/2017	3/9/2017	3/9/2017	3/9/2017	3/10/2017	3/9/2017	3/10/2017	3/10/2017	3/10/2017	3/10/2017	3/9/2017
	Sample Type:			N	N	N	N	N	N	N	N	N	N	N
1,1'-Biphenyl	--	0.083	ug/l	1.2 J	0.72 J	0.63 U	0.63 U	0.63 U	0.63 U	1.1 J	0.63 U	0.68 J	3.3 J	0.75 J
Butyl benzyl phthalate	--	16	ug/l	0.6 U	0.6 U									
Caprolactam	--	990	ug/l	1.1 U	1.1 U									
Carbazole	--	--	ug/l	8.4 J	13	15	6.7 J	4.2 J	1.7 J	84	94	120	77	4.2 J
Chrysene	--	3.4	ug/l	0.67 U	1.1 J	0.67 U	0.67 U							
Dibenz(a,h)anthracene	--	0.0034	ug/l	0.09 U	0.09 U									
Dibenzofuran	--	0.79	ug/l	0.85 U	0.94 J	0.85 U	4.3 J	0.85 U						
Diethyl phthalate	--	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Dimethyl phthalate	--	--	ug/l	0.98 U	0.98 U									
Di-n-butyl phthalate	--	--	ug/l	0.82 U	0.82 U									
Di-n-octyl phthalate	--	20	ug/l	0.69 U	0.69 U									
Fluoranthene	--	80	ug/l	0.96 J	3.7 J	1.7 J	0.84 J	0.99 J	0.72 U	6.4 J	8.6 J	8.6 J	6.2 J	0.82 J
Fluorene	--	29	ug/l	1.6 J	0.8 U	1.4 J	0.8 U	0.8 U	8.8 J	0.8 U				
Hexachlorobenzene	1	0.0098	ug/l	0.47 U	0.47 U									
Hexachlorobutadiene	--	0.14	ug/l	0.76 U	0.76 U									
Hexachlorocyclopentadiene	50	0.041	ug/l	0.61 U	0.61 U									
Hexachloroethane	--	0.33	ug/l	0.09 U	0.09 U									
Indeno[1,2,3-cd]pyrene	--	0.034	ug/l	0.21 U	0.21 U									
Isophorone	--	78	ug/l	0.67 U	0.67 U									
Naphthalene	--	0.17	ug/l	5.2 J	3.7 J	0.8 U	0.8 U	0.8 U	0.8 U	1.8 J	1.3 J	9.7 J	32	6.9 J
Nitrobenzene	--	0.14	ug/l	0.49 U	0.49 U									
N-Nitrosodi-n-propylamine	--	0.011	ug/l	0.83 U	0.83 U									
N-Nitrosodiphenylamine	--	12	ug/l	0.74 U	3.1 J	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U				
Pentachlorophenol	1	0.041	ug/l	2.2 U	2.2 U									
Phenanthrene	--	--	ug/l	3.8 J	6.6 J	0.99 J	0.65 U	1.2 J	0.65 U	8.2 J	10	11	22	1.7 J
Phenol	--	580	ug/l	0.41 U	0.41 U									
Pyrene	--	12	ug/l	0.83 U	2.8 J	0.83 U	0.83 U	0.83 U	0.83 U	3.3 J	4.1 J	5.2 J	4 J	0.83 U

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 7. Summary of Metals in Surficial Broom-Cleaned Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit	Sample Designation:		CFPR01-BF-01	CFPR01-BF-02	CFPR01-BF-03	CFPR01-BF-04	CFPR01-BW-01	CFPR01-BW-04	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-03	CFPR01-GF-04	CFPR01-SS
				Sample Date:	3/9/2017	3/9/2017	3/9/2017	3/9/2017	3/10/2017	3/9/2017	3/10/2017	3/10/2017	3/10/2017	3/10/2017	3/9/2017	
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
Aluminum	--	2000	ug/l	1350	7800	657	168	495	806	18800	24600	47800	9220	5210		
Antimony	<b>6</b>	0.78	ug/l	2.3	2.3	3	2.6	2.6	1.7 J	2.6	2.6	1.6 J	2.1	2.2		
Arsenic	10	0.052	ug/l	0.92 J	0.64 U	0.64 U	0.64 U	1.5 J	0.64 U	0.64 J	0.64 U	0.64 U	0.64 U	0.64 J		
Barium	2000	380	ug/l	30.4	16.5	19.8	16.7	26.2	57.9	30	41.2	51.7	174	37.2		
Beryllium	4	2.5	ug/l	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U		
Cadmium	--	--	ug/l	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U		
Calcium	--	--	ug/l	54500	56600	40600	41700	32700	123000	58100	64400	75300	145000	79800		
Chromium	100	--	ug/l	13.1	11.3	10.8	9.4	41.7	39.1	40.5	35.4	38.1	27.4	13.5		
Cobalt	--	0.6	ug/l	1.3 U	1.3 U	1.3 U	1.3 U	5.3	1.3 U							
Copper	1300	80	ug/l	1.6 J	1.5 J	1.4 U	1.4 U	1.7 J	1.4 U	2.7 J	2.3 J	1.7 J	1.4 J	1.4 U		
Iron	--	1400	ug/l	481	42.4 U	42.4 U	56.2 J	2590	63 J	279	156	42.4 U	62 J	73.2 J		
Lead	<b>15</b>	15	ug/l	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.54 J	0.38 U	0.38 U	0.38 U	0.38 U		
Magnesium	--	--	ug/l	468	129 J	310	350	264	142 J	326	274	106 J	121 J	242		
Manganese	--	--	ug/l	14.1	2.5 U	2.5 U	2.5 U	4 J	2.5 U	7.2 J	5.2 J	2.5 U	2.5 U	2.5 U		
Mercury	2	0.063	ug/l	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U		
Nickel	--	--	ug/l	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.7 J	1.4 U	1.4 U	1.4 U	1.4 U		
Potassium	--	--	ug/l	9000	8690	9410	11200	19800	10900	16200	5730	5970	12500	11900		
Selenium	50	10	ug/l	0.85 J	0.81 J	0.73 U	0.73 U	0.97 J	0.73 U	1.4 J	1.3 J	1.1 J	1.1 J	0.73 U		
Silver	--	9.4	ug/l	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U		
Sodium	--	--	ug/l	47900	66700	51500	35400	115000	8350	66700	65500	75200	46800	41800		
Thallium	2	0.02	ug/l	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U		
Vanadium	--	8.6	ug/l	22.1	14.4	21.2	30.5	47	13.2	11.3	7.5	7.4	4.1	17.1		
Zinc	--	600	ug/l	8 J	7 U	7 U	7 U	7 U	7 U	7 U	7 U	7 U	7 U	7 U		

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 8. Summary of General Chemistry in Surficial Broom-Cleaned Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

				Sample Designation:	CFPR01-BF-01	CFPR01-BF-02	CFPR01-BF-03	CFPR01-BF-04	CFPR01-BW-01	CFPR01-BW-04	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-03	CFPR01-GF-04	CFPR01-SS
				Sample Date:	3/9/2017	3/9/2017	3/9/2017	3/9/2017	3/10/2017	3/9/2017	3/10/2017	3/10/2017	3/10/2017	3/9/2017	
				Sample Type:	N	N	N	N	N	N	N	N	N	N	
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit												
Cyanide, Free	200	0.15	ug/l	1.5 U	1.5 U	1.5 U	1.5 U	5.8	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	
Fluoride	4000	80	ug/l	<b>23800 J</b>	<b>57500 J</b>	<b>38200 J</b>	<b>22800 J</b>	<b>11200 J</b>	2040 J+	<b>34900 J</b>	<b>37200 J</b>	<b>45000 J</b>	<b>25600 J</b>	<b>58500 J</b>	

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 9. Summary of Polychlorinated Biphenyls in Surficial Broom-Cleaned Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	Sample Designation:			CFPR01-BF-01	CFPR01-BF-02	CFPR01-BF-03	CFPR01-BF-04	CFPR01-BW-01	CFPR01-BW-04	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-03	CFPR01-GF-04	CFPR01-SS
	Sample Date:			3/9/2017	3/9/2017	3/9/2017	3/9/2017	3/10/2017	3/9/2017	3/10/2017	3/10/2017	3/10/2017	3/10/2017	3/9/2017
	Sample Type:			N	N	N	N	N	N	N	N	N	N	N
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit											
Aroclor 1016	--	0.14	ug/l	0.098 U	0.098 U									
Aroclor 1221	--	0.0047	ug/l	0.098 U	0.098 U									
Aroclor 1232	--	0.0047	ug/l	0.098 U	0.098 U									
Aroclor 1242	--	0.0078	ug/l	0.098 U	0.098 U									
Aroclor 1248	--	0.0078	ug/l	0.098 U	0.098 U									
Aroclor 1254	--	0.0078	ug/l	0.084 U	0.084 U									
Aroclor 1260	--	0.0078	ug/l	0.084 U	0.084 U									
Aroclor 1268	--	--	ug/l	0.084 U	0.084 U									
Aroclor-1262	--	--	ug/l	0.084 U	0.084 U									
Polychlorinated biphenyls, Total	--	--	ug/l	0.098 U	0.098 U									

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 10. Summary of Semivolatile Organic Compounds in Concrete**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Industrial Soil RSL	EPA Residential Soil RSL	Unit	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02
				CFPR01-BF-02-CO-1	CF-DUP050217-CO	CFPR01-BF-02-CO-2	CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1	CFPR01-BF-02-CO-CORE-2
				Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
				05/02/2017	05/02/2017	05/02/2017	05/04/2017	05/02/2017	05/03/2017
				N	FD	N	N	N	N
1,1'-Biphenyl	20	4.7	mg/kg	0.029 U	0.029 U	0.029 U	0.029 U	0.15 U	0.15 U
1,2,4,5-Tetrachlorobenzene	35	2.3	mg/kg	0.025 U	0.025 U	0.025 U	0.025 U	0.13 U	0.13 U
1,4-Dioxane	24	5.3	mg/kg	0.09 U	0.09 U	0.091 U	0.092 U	0.46 U	0.46 U
2,2'-oxybis[1-chloropropane]	4700	310	mg/kg	0.014 U	0.014 U	0.014 U	0.014 U	0.071 U	0.071 U
2,3,4,6-Tetrachlorophenol	2500	190	mg/kg	0.032 U	0.032 U	0.032 U	0.032 U	0.16 U	0.16 U
2,4,5-Trichlorophenol	8200	630	mg/kg	0.034 U	0.034 U	0.034 U	0.034 U	0.17 U	0.17 U
2,4,6-Trichlorophenol	82	6.3	mg/kg	0.0096 U	0.0096 U	0.0096 U	0.0097 U	0.049 U	0.049 U
2,4-Dichlorophenol	250	19	mg/kg	0.008 U	0.008 U	0.008 U	0.0081 U	0.041 U	0.041 U
2,4-Dimethylphenol	1600	130	mg/kg	0.074 U	0.074 U	0.075 U	0.075 U	0.38 U	0.38 U
2,4-Dinitrophenol	160	13	mg/kg	0.26 U	0.26 U	0.26 U	0.26 U	1.3 U	1.3 U
2,4-Dinitrotoluene	7.4	1.7	mg/kg	0.013 U	0.013 U	0.013 U	0.014 U	0.069 U	0.069 U
2,6-Dinitrotoluene	1.5	0.36	mg/kg	0.018 U	0.018 U	0.018 U	0.018 U	0.092 U	0.092 U
2-Chloronaphthalene	6000	480	mg/kg	0.0077 U	0.0077 U	0.0077 U	0.0078 U	0.039 U	0.039 U
2-Chlorophenol	580	39	mg/kg	0.0086 U	0.0086 U	0.0086 U	0.0087 U	0.044 U	0.044 U
2-Methylnaphthalene	300	24	mg/kg	0.0075 U	0.0075 U	0.0075 U	0.0076 U	0.038 U	0.038 U
2-Methylphenol	4100	320	mg/kg	0.015 U	0.015 U	0.015 U	0.015 U	0.075 U	0.075 U
2-Nitroaniline	800	63	mg/kg	0.011 U	0.011 U	0.011 U	0.011 U	0.057 U	0.057 U
2-Nitrophenol	--	--	mg/kg	0.011 U	0.011 U	0.011 U	0.012 U	0.058 U	0.058 U
3 & 4 Methylphenol	--	--	mg/kg	0.009 U	0.009 U	0.009 U	0.0091 U	0.046 U	0.046 U
3,3'-Dichlorobenzidine	5.1	1.2	mg/kg	0.038 U	0.038 U	0.038 U	0.038 U	0.19 U	0.19 U
3-Nitroaniline	--	--	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.051 U	0.051 U
4,6-Dinitro-2-methylphenol	6.6	0.51	mg/kg	0.09 U	0.09 U	0.091 U	0.091 U	0.46 U	0.46 U
4-Bromophenyl phenyl ether	--	--	mg/kg	0.011 U	0.011 U	0.011 U	0.011 U	0.054 U	0.054 U
4-Chloro-3-methylphenol	8200	630	mg/kg	0.015 U	0.015 U	0.015 U	0.015 U	0.074 U	0.074 U
4-Chloroaniline	11	2.7	mg/kg	0.0087 U	0.0087 U	0.0087 U	0.0088 U	0.044 U	0.045 U
4-Chlorophenyl phenyl ether	--	--	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.052 U	0.052 U
4-Nitroaniline	110	25	mg/kg	0.013 U	0.013 U	0.013 U	0.013 U	0.065 U	0.065 U
4-Nitrophenol	--	--	mg/kg	0.16 U	0.16 U	0.16 U	0.16 U	0.83 U	0.83 U
Acenaphthene	4500	360	mg/kg	0.0082 U	0.0082 U	0.0082 U	0.0083 U	0.042 U	0.042 U
Acenaphthylene	--	--	mg/kg	0.0087 U	0.0087 U	0.0087 U	0.0088 U	0.044 U	0.045 U
Acetophenone	12000	780	mg/kg	0.0074 U	0.0074 U	0.0074 U	0.0075 U	0.038 U	0.038 U
Anthracene	23000	1800	mg/kg	0.082 J	0.032 U	0.032 U	0.033 U	0.16 U	0.16 U
Atrazine	10	2.4	mg/kg	0.015 U	0.015 U	0.015 U	0.015 U	0.077 U	0.077 U
Benzaldehyde	820	170	mg/kg	0.026 U	0.026 U	0.026 U	0.026 U	0.13 U	0.13 U
Benzo[a]anthracene	<b>2.9</b>	0.16	mg/kg	0.61	0.48	1.4	0.029 U	0.14 U	0.14 U
Benzo[a]pyrene	<b>0.29</b>	0.016	mg/kg	<b>0.41</b>	<b>0.33</b>	<b>1.8</b>	0.01 U	0.052 U	0.052 U
Benzo[b]fluoranthene	<b>2.9</b>	0.16	mg/kg	2.1	1.6	<b>6.3</b>	0.11	0.067 U	0.068 U
Benzo[g,h,i]perylene	--	--	mg/kg	0.61	0.47	1.9	0.02 U	0.099 U	0.1 U
Benzo[k]fluoranthene	29	1.6	mg/kg	0.49	0.44	1.9	0.015 U	0.075 U	0.075 U
Bis(2-chloroethoxy)methane	250	19	mg/kg	0.011 U	0.011 U	0.011 U	0.011 U	0.054 U	0.054 U

**Table 10. Summary of Semivolatile Organic Compounds in Concrete**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Industrial Soil RSL	EPA Residential Soil RSL	Unit	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02
				CFPR01-BF-02-CO-1	CF-DUP050217-CO	CFPR01-BF-02-CO-2	CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1	CFPR01-BF-02-CO-CORE-2
				Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
				05/02/2017	05/02/2017	05/02/2017	05/04/2017	05/02/2017	05/03/2017
				N	FD	N	N	N	N
1,1'-Biphenyl	20	4.7	mg/kg	0.029 U	0.029 U	0.029 U	0.029 U	0.15 U	0.15 U
Bis(2-chloroethyl)ether	1	0.23	mg/kg	0.008 U	0.008 U	0.008 U	0.0081 U	0.041 U	0.041 U
Bis(2-ethylhexyl) phthalate	160	39	mg/kg	0.013 U	0.013 U	0.013 U	0.013 U	0.067 U	0.068 U
Butyl benzyl phthalate	1200	290	mg/kg	0.2 J	0.01 U	0.01 U	0.011 U	0.053 U	0.053 U
Caprolactam	40000	3100	mg/kg	0.024 U	0.024 U	0.024 U	0.025 U	0.12 U	0.12 U
Carbazole	--	--	mg/kg	0.59	0.39	0.066 J	0.0085 U	0.043 U	0.043 U
Chrysene	290	16	mg/kg	1.9	1.4	2.8	0.17 J	0.047 U	0.047 U
Dibenz(a,h)anthracene	<b>0.29</b>	0.016	mg/kg	0.21	0.15	<b>0.74</b>	0.018 U	0.09 U	0.09 U
Dibenzofuran	100	7.3	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.052 U	0.052 U
Diethyl phthalate	66000	5100	mg/kg	0.0096 U	0.0096 U	0.0096 U	0.0097 U	0.049 U	0.049 U
Dimethyl phthalate	--	--	mg/kg	0.0098 U	0.0098 U	0.0099 U	0.01 U	0.05 U	0.05 U
Di-n-butyl phthalate	8200	630	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	0.052 U	0.052 U
Di-n-octyl phthalate	820	63	mg/kg	0.017 U	0.017 U	0.017 U	0.017 U	0.088 U	0.088 U
Fluoranthene	3000	240	mg/kg	3.8	2.6	1.1	0.49	0.051 U	0.051 U
Fluorene	3000	240	mg/kg	0.0074 U	0.0074 U	0.0074 U	0.0075 U	0.038 U	0.038 U
Hexachlorobenzene	0.96	0.21	mg/kg	0.014 U	0.014 U	0.014 U	0.014 U	0.07 U	0.07 U
Hexachlorobutadiene	5.3	1.2	mg/kg	0.0095 U	0.0095 U	0.0095 U	0.0096 U	0.049 U	0.049 U
Hexachlorocyclopentadiene	0.75	0.18	mg/kg	0.021 U	0.021 U	0.021 U	0.021 U	0.11 U	0.11 U
Hexachloroethane	8	1.8	mg/kg	0.012 U	0.012 U	0.012 U	0.013 U	0.063 U	0.063 U
Indeno[1,2,3-cd]pyrene	<b>2.9</b>	0.16	mg/kg	0.66	0.51	1.9	0.023 U	0.12 U	0.12 U
Isophorone	2400	570	mg/kg	0.0073 U	0.0073 U	0.0073 U	0.0074 U	2	0.82
Naphthalene	17	3.8	mg/kg	0.0086 U	0.0086 U	0.0086 U	0.0087 U	0.044 U	0.044 U
Nitrobenzene	22	5.1	mg/kg	0.011 U	0.011 U	0.011 U	0.011 U	0.054 U	0.054 U
N-Nitrosodi-n-propylamine	0.33	0.078	mg/kg	0.011 U	0.011 U	0.011 U	0.012 U	0.058 U	0.058 U
N-Nitrosodiphenylamine	470	110	mg/kg	0.031 U	0.031 U	0.031 U	0.031 U	0.16 U	0.16 U
Pentachlorophenol	4	1	mg/kg	0.041 U	0.041 U	0.041 U	0.041 U	0.21 U	0.21 U
Phenanthrene	--	--	mg/kg	0.65	0.51	0.32 J	0.16 J	0.046 U	0.046 U
Phenol	25000	1900	mg/kg	0.011 U	0.011 U	0.011 U	0.011 U	0.056 U	0.057 U
Pyrene	2300	180	mg/kg	1.6	1.2	0.49	0.13 J	0.078 U	0.079 U

Bold data indicates that parameter was detected above the EPA Residential Soil RSLs

Shaded data indicates that parameter was detected above the EPA Industrial Soil RSLs

**Table 10. Summary of Semivolatile Organic Compounds in Concrete**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Industrial Soil RSL	EPA Residential Soil RSL	Unit	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01
				CFPR01-GF-01-CO-1	CFPR01-GF-01-CO-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	CFPR01-GF-01-CO-CORE-2
				Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
				05/03/2017	05/04/2017	05/04/2017	05/04/2017	05/04/2017
				N	N	N	N	N
1,1'-Biphenyl	20	4.7	mg/kg	0.14 U	0.029 U	0.029 U	0.029 U	0.029 U
1,2,4,5-Tetrachlorobenzene	35	2.3	mg/kg	0.13 U	0.025 U	0.026 U	0.026 U	0.025 U
1,4-Dioxane	24	5.3	mg/kg	0.45 U	0.09 U	0.092 U	0.092 U	0.091 U
2,2'-oxybis[1-chloropropane]	4700	310	mg/kg	0.069 U	0.014 U	0.014 U	0.014 U	0.014 U
2,3,4,6-Tetrachlorophenol	2500	190	mg/kg	0.16 U	0.032 U	0.032 U	0.032 U	0.032 U
2,4,5-Trichlorophenol	8200	630	mg/kg	0.17 U	0.033 U	0.034 U	0.034 U	0.034 U
2,4,6-Trichlorophenol	82	6.3	mg/kg	0.048 U	0.0096 U	0.0098 U	0.0098 U	0.0097 U
2,4-Dichlorophenol	250	19	mg/kg	0.04 U	0.0079 U	0.0081 U	0.0081 U	0.008 U
2,4-Dimethylphenol	1600	130	mg/kg	0.37 U	0.074 U	0.076 U	0.076 U	0.075 U
2,4-Dinitrophenol	160	13	mg/kg	1.3 U	0.25 U	0.26 U	0.26 U	0.26 U
2,4-Dinitrotoluene	7.4	1.7	mg/kg	0.067 U	0.013 U	0.014 U	0.014 U	0.013 U
2,6-Dinitrotoluene	1.5	0.36	mg/kg	0.09 U	0.018 U	0.018 U	0.018 U	0.018 U
2-Chloronaphthalene	6000	480	mg/kg	0.038 U	0.0076 U	0.0078 U	0.0078 U	0.0077 U
2-Chlorophenol	580	39	mg/kg	0.043 U	0.0085 U	0.0087 U	0.0088 U	0.0086 U
2-Methylnaphthalene	300	24	mg/kg	0.037 U	0.0074 U	0.0076 U	0.0076 U	0.0075 U
2-Methylphenol	4100	320	mg/kg	0.073 U	0.015 U	0.015 U	0.015 U	0.015 U
2-Nitroaniline	800	63	mg/kg	0.055 U	0.011 U	0.011 U	0.011 U	0.011 U
2-Nitrophenol	--	--	mg/kg	0.056 U	0.011 U	0.012 U	0.012 U	0.011 U
3 & 4 Methylphenol	--	--	mg/kg	0.045 U	0.0089 U	0.0091 U	0.0092 U	0.009 U
3,3'-Dichlorobenzidine	5.1	1.2	mg/kg	0.19 U	0.038 U	0.038 U	0.038 U	0.038 U
3-Nitroaniline	--	--	mg/kg	0.05 U	0.01 U	0.01 U	0.01 U	0.01 U
4,6-Dinitro-2-methylphenol	6.6	0.51	mg/kg	0.45 U	0.09 U	0.092 U	0.092 U	0.091 U
4-Bromophenyl phenyl ether	--	--	mg/kg	0.053 U	0.011 U	0.011 U	0.011 U	0.011 U
4-Chloro-3-methylphenol	8200	630	mg/kg	0.072 U	0.014 U	0.015 U	0.015 U	0.015 U
4-Chloroaniline	11	2.7	mg/kg	0.043 U	0.0086 U	0.0088 U	0.0089 U	0.0087 U
4-Chlorophenyl phenyl ether	--	--	mg/kg	0.05 U	0.01 U	0.01 U	0.01 U	0.01 U
4-Nitroaniline	110	25	mg/kg	0.064 U	0.013 U	0.013 U	0.013 U	0.013 U
4-Nitrophenol	--	--	mg/kg	0.81 U	0.16 U	0.17 U	0.17 U	0.16 U
Acenaphthene	4500	360	mg/kg	0.056 J	0.0081 U	0.0083 U	0.0083 U	0.0082 U
Acenaphthylene	--	--	mg/kg	0.043 U	0.0086 U	0.0088 U	0.0089 U	0.0087 U
Acetophenone	12000	780	mg/kg	0.037 U	0.0073 U	0.0075 U	0.0075 U	0.0074 U
Anthracene	23000	1800	mg/kg	0.16 U	0.032 U	0.079 J	0.033 U	0.032 U
Atrazine	10	2.4	mg/kg	0.075 U	0.015 U	0.015 U	0.015 U	0.015 U
Benzaldehyde	820	170	mg/kg	0.13 U	0.026 U	0.026 U	0.026 U	0.026 U
Benzo[a]anthracene	2.9	0.16	mg/kg	3.3	0.16	0.42	0.029 U	0.028 U
Benzo[a]pyrene	0.29	0.016	mg/kg	1.5	0.36	0.24	0.01 U	0.01 U
Benzo[b]fluoranthene	2.9	0.16	mg/kg	7.2	1	1.1	0.17	0.013 U
Benzo[g,h,i]perylene	--	--	mg/kg	2.1	0.24 J	0.37	0.02 U	0.02 U
Benzo[k]fluoranthene	29	1.6	mg/kg	0.073 U	0.23	0.36	0.015 U	0.015 U
Bis(2-chloroethoxy)methane	250	19	mg/kg	0.052 U	0.01 U	0.011 U	0.011 U	0.011 U

**Table 10. Summary of Semivolatile Organic Compounds in Concrete**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Industrial Soil RSL	EPA Residential Soil RSL	Unit	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01
				CFPR01-GF-01-CO-1	CFPR01-GF-01-CO-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	CFPR01-GF-01-CO-CORE-2
				Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
				05/03/2017	05/04/2017	05/04/2017	05/04/2017	05/04/2017
				N	N	N	N	N
1,1'-Biphenyl	20	4.7	mg/kg	0.14 U	0.029 U	0.029 U	0.029 U	0.029 U
Bis(2-chloroethyl)ether	1	0.23	mg/kg	0.04 U	0.0079 U	0.0081 U	0.0081 U	0.008 U
Bis(2-ethylhexyl) phthalate	160	39	mg/kg	0.47 J	0.62	0.013 U	0.013 U	0.013 U
Butyl benzyl phthalate	1200	290	mg/kg	0.052 U	0.01 U	0.011 U	0.011 U	0.01 U
Caprolactam	40000	3100	mg/kg	0.12 U	0.024 U	0.025 U	0.025 U	0.024 U
Carbazole	--	--	mg/kg	3.4	0.51	0.69	0.073 J	0.0084 U
Chrysene	290	16	mg/kg	9.2	1.4	1.4	0.25 J	0.058 J
Dibenz(a,h)anthracene	<b>0.29</b>	0.016	mg/kg	<b>0.64</b>	0.017 U	0.15	0.018 U	0.018 U
Dibenzofuran	100	7.3	mg/kg	0.051 U	0.015 J	0.01 U	0.01 U	0.01 U
Diethyl phthalate	66000	5100	mg/kg	0.048 U	0.0096 U	0.0098 U	0.0098 U	0.0097 U
Dimethyl phthalate	--	--	mg/kg	0.049 U	0.0098 U	0.01 U	0.01 U	0.0099 U
Di-n-butyl phthalate	8200	630	mg/kg	0.05 U	0.01 U	0.01 U	0.01 U	0.01 U
Di-n-octyl phthalate	820	63	mg/kg	0.085 U	0.017 U	0.017 U	0.018 U	0.017 U
Fluoranthene	3000	240	mg/kg	22	6.2	4.9	0.78	0.29 J
Fluorene	3000	240	mg/kg	0.042 J	0.0073 U	0.0075 U	0.0075 U	0.0074 U
Hexachlorobenzene	0.96	0.21	mg/kg	0.068 U	0.014 U	0.014 U	0.014 U	0.014 U
Hexachlorobutadiene	5.3	1.2	mg/kg	0.047 U	0.0095 U	0.0097 U	0.0097 U	0.0096 U
Hexachlorocyclopentadiene	0.75	0.18	mg/kg	0.1 U	0.021 U	0.021 U	0.021 U	0.021 U
Hexachloroethane	8	1.8	mg/kg	0.062 U	0.012 U	0.013 U	0.013 U	0.012 U
Indeno[1,2,3-cd]pyrene	<b>2.9</b>	0.16	mg/kg	2.3	0.31	0.42	0.023 U	0.023 U
Isophorone	2400	570	mg/kg	0.036 U	0.0072 U	0.0074 U	0.0074 U	0.0073 U
Naphthalene	17	3.8	mg/kg	0.043 U	0.0085 U	0.0087 U	0.0088 U	0.0086 U
Nitrobenzene	22	5.1	mg/kg	0.053 U	0.011 U	0.011 U	0.011 U	0.011 U
N-Nitrosodi-n-propylamine	0.33	0.078	mg/kg	0.056 U	0.011 U	0.012 U	0.012 U	0.011 U
N-Nitrosodiphenylamine	470	110	mg/kg	0.15 U	0.03 U	0.031 U	0.031 U	0.031 U
Pentachlorophenol	4	1	mg/kg	0.2 U	0.041 U	0.042 U	0.042 U	0.041 U
Phenanthrene	--	--	mg/kg	3.8	1.9	1.3	0.41	0.23 J
Phenol	25000	1900	mg/kg	0.055 U	0.011 U	0.011 U	0.011 U	0.011 U
Pyrene	2300	180	mg/kg	8.5	1.1	1.7	0.23 J	0.015 U

Bold data indicates that parameter was detected above the EPA Residential Soil RSLs

Shaded data indicates that parameter was detected above the EPA Industrial Soil RSLs

**Table 10. Summary of Semivolatile Organic Compounds in Concrete**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

	Sample Location Sample Name Sample Lab Type Sample Date Sample Type	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02
		CFPR01-GF-02-CO-1	CFPR01-GF-02-CO-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1	CFPR01-GF-02-CO-CORE-2
		Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
		05/03/2017	05/03/2017	05/04/2017	05/03/2017	05/03/2017
		N	N	N	N	N
Analyte	EPA Industrial Soil RSL	EPA Residential Soil RSL	Unit			
1,1'-Biphenyl	20	4.7	mg/kg	0.29 U	0.029 U	0.029 U
1,2,4,5-Tetrachlorobenzene	35	2.3	mg/kg	0.25 U	0.025 U	0.026 U
1,4-Dioxane	24	5.3	mg/kg	0.9 U	0.09 U	0.092 U
2,2'-oxybis[1-chloropropane]	4700	310	mg/kg	0.14 U	0.014 U	0.014 U
2,3,4,6-Tetrachlorophenol	2500	190	mg/kg	0.32 UT	0.032 U	0.032 U
2,4,5-Trichlorophenol	8200	630	mg/kg	0.33 U	0.033 U	0.034 U
2,4,6-Trichlorophenol	82	6.3	mg/kg	0.096 U	0.0095 U	0.0098 U
2,4-Dichlorophenol	250	19	mg/kg	0.079 U	0.0079 U	0.0081 U
2,4-Dimethylphenol	1600	130	mg/kg	0.74 U	0.074 U	0.076 U
2,4-Dinitrophenol	160	13	mg/kg	2.5 UT	0.25 U	0.26 U
2,4-Dinitrotoluene	7.4	1.7	mg/kg	0.13 U	0.013 U	0.014 U
2,6-Dinitrotoluene	1.5	0.36	mg/kg	0.18 U	0.018 U	0.018 U
2-Chloronaphthalene	6000	480	mg/kg	0.076 U	0.0076 U	0.0078 U
2-Chlorophenol	580	39	mg/kg	0.085 U	0.0085 U	0.0086 U
2-Methylnaphthalene	300	24	mg/kg	0.074 U	0.0074 U	0.0075 U
2-Methylphenol	4100	320	mg/kg	0.15 UT	0.015 U	0.015 U
2-Nitroaniline	800	63	mg/kg	0.11 U	0.011 U	0.011 U
2-Nitrophenol	--	--	mg/kg	0.11 UT	0.011 U	0.012 U
3 & 4 Methylphenol	--	--	mg/kg	0.09 UT	0.0089 U	0.009 U
3,3'-Dichlorobenzidine	5.1	1.2	mg/kg	0.38 UT	0.037 U	0.038 U
3-Nitroaniline	--	--	mg/kg	0.1 U	0.0099 U	0.01 U
4,6-Dinitro-2-methylphenol	6.6	0.51	mg/kg	0.9 UT	0.089 U	0.092 U
4-Bromophenyl phenyl ether	--	--	mg/kg	0.11 U	0.011 U	0.011 U
4-Chloro-3-methylphenol	8200	630	mg/kg	0.14 UT	0.014 U	0.015 U
4-Chloroaniline	11	2.7	mg/kg	0.086 U	0.0086 U	0.0087 U
4-Chlorophenyl phenyl ether	--	--	mg/kg	0.1 U	0.01 U	0.01 U
4-Nitroaniline	110	25	mg/kg	0.13 U	0.013 U	0.013 U
4-Nitrophenol	--	--	mg/kg	1.6 U	0.16 U	0.16 U
Acenaphthene	4500	360	mg/kg	0.081 U	0.0081 U	0.0083 U
Acenaphthylene	--	--	mg/kg	0.086 U	0.0086 U	0.0089 U
Acetophenone	12000	780	mg/kg	0.073 U	0.0073 U	0.0074 U
Anthracene	23000	1800	mg/kg	0.32 UT	0.032 U	0.032 U
Atrazine	10	2.4	mg/kg	0.15 U	0.015 U	0.015 U
Benzaldehyde	820	170	mg/kg	0.26 U	0.026 U	0.026 U
Benzo[a]anthracene	2.9	0.16	mg/kg	4 D	0.15	0.14
Benzo[a]pyrene	0.29	0.016	mg/kg	1.5 D	0.3	0.065
Benzo[b]fluoranthene	2.9	0.16	mg/kg	11 D	0.76	0.63
Benzo[g,h,i]perylene	--	--	mg/kg	2.7 DJ	0.2 J	0.19 J
Benzo[k]fluoranthene	29	1.6	mg/kg	3.2 D	0.2	0.13
Bis(2-chloroethoxy)methane	250	19	mg/kg	0.1 U	0.01 U	0.011 U

**Table 10. Summary of Semivolatile Organic Compounds in Concrete**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Industrial Soil RSL	EPA Residential Soil RSL	Unit	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02
				CFPR01-GF-02-CO-1	CFPR01-GF-02-CO-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1	CFPR01-GF-02-CO-CORE-2
				Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
				05/03/2017	05/03/2017	05/04/2017	05/03/2017	05/03/2017
				N	N	N	N	N
1,1'-Biphenyl	20	4.7	mg/kg	0.29 U	0.029 U	0.029 U	0.029 U	0.029 U
Bis(2-chloroethyl)ether	1	0.23	mg/kg	0.079 U	0.0079 U	0.008 U	0.0081 U	0.0079 U
Bis(2-ethylhexyl) phthalate	160	39	mg/kg	0.35 DJ	0.19 J	0.013 U	0.013 U	0.013 U
Butyl benzyl phthalate	1200	290	mg/kg	0.14 DJT	0.16 J	0.23 J	0.011 U	0.01 U
Caprolactam	40000	3100	mg/kg	0.24 U	0.024 U	0.024 U	0.025 U	0.024 U
Carbazole	--	--	mg/kg	6.6 D	0.34	0.36	0.0085 U	0.079 J
Chrysene	290	16	mg/kg	14 DT	0.98	0.91	0.077 J	0.41
Dibenz(a,h)anthracene	<b>0.29</b>	0.016	mg/kg	<b>0.76 D</b>	0.017 U	0.018 U	0.018 U	0.018 U
Dibenzofuran	100	7.3	mg/kg	0.1 U	0.019 J	0.036 J	0.01 U	0.01 U
Diethyl phthalate	66000	5100	mg/kg	0.096 U	0.0095 U	0.0096 U	0.0098 U	0.0096 U
Dimethyl phthalate	--	--	mg/kg	0.098 U	0.0097 U	0.0098 U	0.01 U	0.0098 U
Di-n-butyl phthalate	8200	630	mg/kg	0.1 U	0.01 U	0.01 U	0.01 U	0.01 U
Di-n-octyl phthalate	820	63	mg/kg	0.17 UT	0.017 U	0.017 U	0.018 U	0.017 U
Fluoranthene	3000	240	mg/kg	31 DT	4.4	4.3	0.45	1.2
Fluorene	3000	240	mg/kg	0.073 U	0.0073 U	0.0074 U	0.0075 U	0.0073 U
Hexachlorobenzene	0.96	0.21	mg/kg	0.14 U	0.014 U	0.014 U	0.014 U	0.014 U
Hexachlorobutadiene	5.3	1.2	mg/kg	0.095 U	0.0094 U	0.0095 U	0.0097 U	0.0095 U
Hexachlorocyclopentadiene	0.75	0.18	mg/kg	0.21 UT	0.021 U	0.021 U	0.021 U	0.021 U
Hexachloroethane	8	1.8	mg/kg	0.12 U	0.012 U	0.012 U	0.013 U	0.012 U
Indeno[1,2,3-cd]pyrene	<b>2.9</b>	0.16	mg/kg	<b>3.1 D</b>	0.22	0.15	0.023 U	0.022 U
Isophorone	2400	570	mg/kg	0.072 U	0.0072 U	0.0073 U	0.0074 U	0.0072 U
Naphthalene	17	3.8	mg/kg	0.085 U	0.0085 U	0.0086 U	0.0088 U	0.0086 U
Nitrobenzene	22	5.1	mg/kg	0.11 U	0.011 U	0.011 U	0.011 U	0.011 U
N-Nitrosodi-n-propylamine	0.33	0.078	mg/kg	0.11 U	0.011 U	0.011 U	0.012 U	0.011 U
N-Nitrosodiphenylamine	470	110	mg/kg	0.31 U	0.03 U	0.031 U	0.031 U	0.031 U
Pentachlorophenol	4	1	mg/kg	0.41 UT	0.041 U	0.041 U	0.042 U	0.041 U
Phenanthrene	--	--	mg/kg	6 D	2.1	2.4	0.45	0.44
Phenol	25000	1900	mg/kg	0.11 U	0.011 U	0.011 U	0.011 U	0.011 U
Pyrene	2300	180	mg/kg	13 DT	1	0.88	0.11 J	0.26 J

Bold data indicates that parameter was detected above the EPA Residential Soil RSLs

Shaded data indicates that parameter was detected above the EPA Industrial Soil RSLs

**Table 11. Summary of Volatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

	Sample Location Sample Name		CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02
			CFPR01-BF-02-CO-1	CF-DUP050217-CO	CFPR01-BF-02-CO-2	CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1	CFPR01-BF-02-CO-CORE-2
	Sample Lab Type	Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush	
		05/02/2017	05/02/2017	05/02/2017	05/04/2017	05/02/2017	05/03/2017	
		N	FD	N	N	N	N	
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit					
1,1,1-Trichloroethane	200	800	ug/l	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
1,1,2,2-Tetrachloroethane	--	--	ug/l	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
1,1,2-Trichloro-1,2,2-trifluoroethane	--	5500	ug/l	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	--	--	ug/l	0.08 U	0.08 U	0.08 U	0.08 U	0.08 U
1,1-Dichloroethane	--	2.8	ug/l	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
1,1-Dichloroethene	--	--	ug/l	0.34 U	0.34 U	0.34 U	0.34 U	0.34 U
1,2,3-Trichlorobenzene	--	0.7	ug/l	0.35 U	0.35 U	0.35 U	0.35 U	0.35 U
1,2,4-Trichlorobenzene	--	0.4	ug/l	0.27 U	0.27 U	0.27 U	0.27 U	0.64 J
1,2-Dibromo-3-Chloropropane	0.2	0.00033	ug/l	0.23 U	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorobenzene	600	30	ug/l	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
1,2-Dichloroethane	5	0.17	ug/l	0.25 U	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloropropane	5	0.44	ug/l	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
1,3-Dichlorobenzene	--	--	ug/l	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
1,4-Dichlorobenzene	75	0.48	ug/l	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
2-Butanone (MEK)	--	560	ug/l	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
2-Hexanone	--	3.8	ug/l	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
4-Methyl-2-pentanone (MIBK)	--	630	ug/l	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U
Acetone	--	1400	ug/l	1.1 U	14	12	14	12
Benzene	5	0.46	ug/l	0.28 J	0.68 J	0.19 U	0.25 J	0.19 U
Bromoform	80	3.3	ug/l	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Bromomethane	--	0.75	ug/l	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Carbon disulfide	--	81	ug/l	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Carbon tetrachloride	5	0.46	ug/l	0.33 U	0.33 U	0.33 U	0.33 U	0.33 U
Chlorobenzene	7.8	100	ug/l	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U
Chlorobromomethane	--	8.3	ug/l	0.3 U	0.3 U	0.3 U	0.3 U	0.3 U
Chlorodibromomethane	80	0.87	ug/l	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Chloroethane	--	2100	ug/l	0.37 U	0.37 U	0.37 U	0.37 U	0.37 U
Chloroform	80	0.22	ug/l	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Chloromethane	--	19	ug/l	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
cis-1,2-Dichloroethene	--	--	ug/l	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
cis-1,3-Dichloropropene	--	--	ug/l	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Cyclohexane	--	1300	ug/l	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U
Dichlorobromomethane	80	0.13	ug/l	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Dichlorodifluoromethane	--	20	ug/l	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Ethylbenzene	700	1.5	ug/l	0.81 J	0.3 U	0.3 U	0.75 J	0.3 U
Ethylene Dibromide	--	--	ug/l	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Isopropylbenzene	--	--	ug/l	0.32 U	0.32 U	0.32 U	0.32 U	0.32 U

**Table 11. Summary of Volatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	Sample Location		CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02
	Sample Name		CFPR01-BF-02-CO-1	CF-DUP050217-CO	CFPR01-BF-02-CO-2	CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1	CFPR01-BF-02-CO-CORE-2
	Sample Lab Type		Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
	Sample Date		05/02/2017	05/02/2017	05/02/2017	05/04/2017	05/02/2017	05/03/2017
	Sample Type		N	FD	N	N	N	N
	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit					
1,1,1-Trichloroethane	200	800	ug/l	0.28 U	0.28 U	0.28 U	0.28 U	0.28 U
Methyl acetate	--	2000	ug/l	0.58 U	0.58 U	0.58 U	0.58 U	0.58 U
Methyl tert-butyl ether	--	14	ug/l	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U
Methylcyclohexane	--	--	ug/l	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Methylene Chloride	5	11	ug/l	<b>29 B</b>	<b>20 B</b>	<b>31 B</b>	<b>43 B</b>	<b>27 B</b>
m-Xylene & p-Xylene	--	--	ug/l	3.1	0.5 J	0.28 U	3.1	0.28 U
o-Xylene	--	19	ug/l	1.8	0.32 U	0.32 U	1.9	0.32 U
Styrene	100	120	ug/l	0.17 U	0.17 U	0.19 J	0.31 J	0.17 U
Tetrachloroethene	--	--	ug/l	0.36 U	0.36 U	0.36 U	0.36 U	0.36 U
Toluene	1000	110	ug/l	1	1.2	0.25 U	1.1	0.25 U
trans-1,2-Dichloroethene	--	--	ug/l	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
trans-1,3-Dichloropropene	--	--	ug/l	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U
Trichloroethene	--	--	ug/l	0.22 U	0.22 U	0.22 U	0.22 U	0.22 U
Trichlorofluoromethane	--	520	ug/l	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Vinyl chloride	2	0.019	ug/l	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 11. Summary of Volatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

	Sample Location Sample Name		CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01
			CFPR01-GF-01-CO-1	CFPR01-GF-01-CO-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	CFPR01-GF-01-CO-CORE-2
	Sample Lab Type		Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
			05/03/2017	05/04/2017	05/04/2017	05/04/2017	05/04/2017
			N	N	N	N	N
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit				
1,1,1-Trichloroethane	200	800	ug/l	0.28 U	0.28 U	0.28 U	0.28 U
1,1,2,2-Tetrachloroethane	--	--	ug/l	0.19 U	0.19 U	0.19 U	0.19 U
1,1,2-Trichloro-1,2,2-trifluoroethane	--	5500	ug/l	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	--	--	ug/l	0.08 U	0.08 U	0.08 U	0.08 U
1,1-Dichloroethane	--	2.8	ug/l	0.24 U	0.24 U	0.24 U	0.24 U
1,1-Dichloroethene	--	--	ug/l	0.34 U	0.34 U	0.34 U	0.34 U
1,2,3-Trichlorobenzene	--	0.7	ug/l	0.35 U	0.35 U	0.35 U	0.35 U
1,2,4-Trichlorobenzene	--	0.4	ug/l	0.27 U	0.27 U	0.27 U	0.27 U
1,2-Dibromo-3-Chloropropane	0.2	0.00033	ug/l	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorobenzene	600	30	ug/l	0.22 U	0.22 U	0.22 U	0.22 U
1,2-Dichloroethane	5	0.17	ug/l	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloropropane	5	0.44	ug/l	0.18 U	0.18 U	0.18 U	0.18 U
1,3-Dichlorobenzene	--	--	ug/l	0.33 U	0.33 U	0.33 U	0.33 U
1,4-Dichlorobenzene	75	0.48	ug/l	0.33 U	0.33 U	0.33 U	0.33 U
2-Butanone (MEK)	--	560	ug/l	4.6 J	8.5	2.2 U	2.2 U
2-Hexanone	--	3.8	ug/l	2.6 J	3.8 J	0.72 U	0.72 U
4-Methyl-2-pentanone (MIBK)	--	630	ug/l	0.63 U	0.63 U	0.63 U	0.63 U
Acetone	--	1400	ug/l	28	45	21	13
Benzene	5	0.46	ug/l	1.1	1	0.45 J	0.19 U
Bromoform	80	3.3	ug/l	0.18 U	0.18 U	0.18 U	0.18 U
Bromomethane	--	0.75	ug/l	0.18 U	0.18 U	0.18 U	0.18 U
Carbon disulfide	--	81	ug/l	0.22 U	0.22 U	0.22 U	0.22 U
Carbon tetrachloride	5	0.46	ug/l	0.33 U	0.33 U	0.33 U	0.33 U
Chlorobenzene	7.8	100	ug/l	0.24 U	0.24 U	0.24 U	0.24 U
Chlorobromomethane	--	8.3	ug/l	0.3 U	0.3 U	0.3 U	0.3 U
Chlorodibromomethane	80	0.87	ug/l	0.22 U	0.22 U	0.22 U	0.22 U
Chloroethane	--	2100	ug/l	0.37 U	0.37 U	0.37 U	0.37 U
Chloroform	80	0.22	ug/l	0.22 U	0.22 U	0.22 U	0.22 U
Chloromethane	--	19	ug/l	0.22 U	0.22 U	0.22 U	0.22 U
cis-1,2-Dichloroethene	--	--	ug/l	0.26 U	0.26 U	0.26 U	0.26 U
cis-1,3-Dichloropropene	--	--	ug/l	0.16 U	0.16 U	0.16 U	0.16 U
Cyclohexane	--	1300	ug/l	0.26 U	0.26 U	0.26 U	0.26 U
Dichlorobromomethane	80	0.13	ug/l	0.15 U	0.15 U	0.15 U	0.15 U
Dichlorodifluoromethane	--	20	ug/l	0.14 U	0.14 U	0.14 U	0.14 U
Ethylbenzene	700	1.5	ug/l	0.3 U	0.3 U	5.2	0.3 U
Ethylene Dibromide	--	--	ug/l	0.19 U	0.19 U	0.19 U	0.19 U
Isopropylbenzene	--	--	ug/l	0.32 U	0.32 U	0.73 J	0.32 U

**Table 11. Summary of Volatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	Sample Location		CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01
	Sample Name		CFPR01-GF-01-CO-1	CFPR01-GF-01-CO-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	CFPR01-GF-01-CO-CORE-2
	Sample Lab Type		Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
	Sample Date		05/03/2017	05/04/2017	05/04/2017	05/04/2017	05/04/2017
	Sample Type		N	N	N	N	N
1,1,1-Trichloroethane	200	800	ug/l	0.28 U	0.28 U	0.28 U	0.28 U
Methyl acetate	--	2000	ug/l	0.58 U	0.58 U	0.58 U	0.58 U
Methyl tert-butyl ether	--	14	ug/l	0.13 U	0.13 U	0.13 U	0.13 U
Methylcyclohexane	--	--	ug/l	0.22 U	0.22 U	0.22 U	0.22 U
Methylene Chloride	5	11	ug/l	<b>29 B</b>	<b>34 B</b>	<b>38 B</b>	<b>44 B</b>
m-Xylene & p-Xylene	--	--	ug/l	1.1 J	0.6 J	21	0.28 U
o-Xylene	--	19	ug/l	1.5	0.38 J	9.8	0.32 U
Styrene	100	120	ug/l	0.24 J	0.43 J	0.19 J	0.17 U
Tetrachloroethene	--	--	ug/l	0.36 U	0.36 U	0.36 U	0.36 U
Toluene	1000	110	ug/l	0.94 J	0.65 J	6.3	0.3 J
trans-1,2-Dichloroethene	--	--	ug/l	0.18 U	0.18 U	0.18 U	0.18 U
trans-1,3-Dichloropropene	--	--	ug/l	0.19 U	0.19 U	0.19 U	0.19 U
Trichloroethene	--	--	ug/l	0.22 U	0.22 U	0.22 U	0.22 U
Trichlorofluoromethane	--	520	ug/l	0.15 U	0.15 U	0.15 U	0.15 U
Vinyl chloride	2	0.019	ug/l	0.2 U	0.2 U	0.2 U	0.2 U

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 11. Summary of Volatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

	Sample Location Sample Name		CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02
			CFPR01-GF-02-CO-1	CFPR01-GF-02-CO-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1	CFPR01-GF-02-CO-CORE-2
	Sample Lab Type	Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush	
		05/03/2017	05/03/2017	05/04/2017	05/03/2017	05/03/2017	
		N	N	N	N	N	
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit				
1,1,1-Trichloroethane	200	800	ug/l	0.28 U	0.28 U	0.28 U	0.28 U
1,1,2,2-Tetrachloroethane	--	--	ug/l	0.19 UT	0.19 U	0.19 U	0.19 U
1,1,2-Trichloro-1,2,2-trifluoroethane	--	5500	ug/l	0.34 U	0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	--	--	ug/l	0.08 U	0.08 U	0.08 U	0.08 U
1,1-Dichloroethane	--	2.8	ug/l	0.24 U	0.24 U	0.24 U	0.24 U
1,1-Dichloroethene	--	--	ug/l	0.34 U	0.34 U	0.34 U	0.34 U
1,2,3-Trichlorobenzene	--	0.7	ug/l	0.35 U	0.35 U	0.35 U	0.35 U
1,2,4-Trichlorobenzene	--	0.4	ug/l	0.27 U	0.27 U	0.27 U	0.27 U
1,2-Dibromo-3-Chloropropane	0.2	0.00033	ug/l	0.23 U	0.23 U	0.23 U	0.23 U
1,2-Dichlorobenzene	600	30	ug/l	0.22 U	0.22 U	0.22 U	0.22 U
1,2-Dichloroethane	5	0.17	ug/l	0.25 U	0.25 U	0.25 U	0.25 U
1,2-Dichloropropane	5	0.44	ug/l	0.18 U	0.18 U	0.18 U	0.18 U
1,3-Dichlorobenzene	--	--	ug/l	0.33 U	0.33 U	0.33 U	0.33 U
1,4-Dichlorobenzene	75	0.48	ug/l	0.33 U	0.33 U	0.33 U	0.33 U
2-Butanone (MEK)	--	560	ug/l	4.3 J	5.6	27	2.2 U
2-Hexanone	--	3.8	ug/l	0.72 U	2.3 J	9.5	0.72 U
4-Methyl-2-pentanone (MIBK)	--	630	ug/l	0.63 U	0.63 U	3.9 J	0.63 U
Acetone	--	1400	ug/l	31	29	100	16
Benzene	5	0.46	ug/l	1.1	0.24 J	0.31 J	0.19 U
Bromoform	80	3.3	ug/l	0.18 U	0.18 U	0.18 U	0.18 U
Bromomethane	--	0.75	ug/l	0.18 U	0.18 U	0.18 U	0.18 U
Carbon disulfide	--	81	ug/l	0.22 U	0.22 U	0.22 U	0.22 U
Carbon tetrachloride	5	0.46	ug/l	0.33 U	0.33 U	0.33 U	0.33 U
Chlorobenzene	7.8	100	ug/l	0.24 U	0.24 U	0.24 U	0.24 U
Chlorobromomethane	--	8.3	ug/l	0.3 U	0.3 U	0.3 U	0.3 U
Chlorodibromomethane	80	0.87	ug/l	0.22 U	0.22 U	0.22 U	0.22 U
Chloroethane	--	2100	ug/l	0.37 U	0.37 U	0.37 U	0.37 U
Chloroform	80	0.22	ug/l	0.22 U	0.22 U	0.22 U	0.22 U
Chloromethane	--	19	ug/l	0.22 U	0.22 U	0.22 U	0.22 U
cis-1,2-Dichloroethene	--	--	ug/l	0.26 U	0.26 U	0.26 U	0.26 U
cis-1,3-Dichloropropene	--	--	ug/l	0.16 U	0.16 U	0.16 U	0.16 U
Cyclohexane	--	1300	ug/l	0.26 U	0.26 U	0.26 U	0.26 U
Dichlorobromomethane	80	0.13	ug/l	0.15 U	0.15 U	0.15 U	0.15 U
Dichlorodifluoromethane	--	20	ug/l	0.14 U	0.14 U	0.14 U	0.14 U
Ethylbenzene	700	1.5	ug/l	0.3 U	0.3 U	0.98 J	0.3 U
Ethylene Dibromide	--	--	ug/l	0.19 U	0.19 U	0.19 U	0.19 U
Isopropylbenzene	--	--	ug/l	0.32 U	0.32 U	0.32 U	0.32 U

**Table 11. Summary of Volatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

	Sample Location Sample Name		CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02
			CFPR01-GF-02-CO-1	CFPR01-GF-02-CO-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1	CFPR01-GF-02-CO-CORE-2
	Sample Lab Type		Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
			05/03/2017	05/03/2017	05/04/2017	05/03/2017	05/03/2017
			N	N	N	N	N
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit				
1,1,1-Trichloroethane	200	800	ug/l	0.28 U	0.28 U	0.28 U	0.28 U
Methyl acetate	--	2000	ug/l	0.58 UT	0.58 U	0.58 U	0.58 U
Methyl tert-butyl ether	--	14	ug/l	0.13 U	0.13 U	0.13 U	0.13 U
Methylcyclohexane	--	--	ug/l	0.22 U	0.22 U	0.22 U	0.22 U
Methylene Chloride	5	11	ug/l	<b>31 B</b>	<b>39 B</b>	<b>30 B</b>	<b>27 B</b>
m-Xylene & p-Xylene	--	--	ug/l	0.42 J	0.28 U	3.7	0.28 U
o-Xylene	--	19	ug/l	0.32 U	0.32 U	1.5	0.32 U
Styrene	100	120	ug/l	0.39 J	0.38 J	0.23 J	0.26 J
Tetrachloroethene	--	--	ug/l	0.36 U	0.36 U	0.36 U	0.36 U
Toluene	1000	110	ug/l	0.72 J	0.25 U	0.72 J	0.76 J
trans-1,2-Dichloroethene	--	--	ug/l	0.18 U	0.18 U	0.18 U	0.18 U
trans-1,3-Dichloropropene	--	--	ug/l	0.19 U	0.19 U	0.19 U	0.19 U
Trichloroethene	--	--	ug/l	0.22 UT	0.22 U	0.22 U	0.22 U
Trichlorofluoromethane	--	520	ug/l	0.15 U	0.15 U	0.15 U	0.15 U
Vinyl chloride	2	0.019	ug/l	0.2 U	0.2 U	0.2 U	0.2 U

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 12. Summary of Semivolatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit	Sample Location Sample Name	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02
				Sample Lab Type	CFPR01-BF-02-CO-1	CF-DUP050217-CO	CFPR01-BF-02-CO-2	CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1	CFPR01-BF-02-CO-CORE-2
				Sample Date	Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
				Sample Type	05/02/2017	05/02/2017	05/02/2017	05/04/2017	05/02/2017	05/03/2017
					N	FD	N	N	N	N
1,1'-Biphenyl	--	0.083	ug/l		0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U
1,2,4,5-Tetrachlorobenzene	--	0.17	ug/l		0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U
1,4-Dioxane	--	0.46	ug/l		3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U
2,2'-oxybis[1-chloropropane]	--	--	ug/l		0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U
2,3,4,6-Tetrachlorophenol	--	24	ug/l		0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
2,4,5-Trichlorophenol	--	120	ug/l		0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
2,4,6-Trichlorophenol	--	1.2	ug/l		0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
2,4-Dichlorophenol	--	4.6	ug/l		0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U
2,4-Dimethylphenol	--	36	ug/l		0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U
2,4-Dinitrophenol	--	3.9	ug/l		2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
2,4-Dinitrotoluene	--	0.24	ug/l		1 U	1 U	1 U	1 U	1 U	1 U
2,6-Dinitrotoluene	--	0.049	ug/l		0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
2-Chloronaphthalene	--	--	ug/l		0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U
2-Chlorophenol	--	9.1	ug/l		0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U
2-Methylnaphthalene	--	3.6	ug/l		1.9 J	2.8 J	1.2 J	2.4 J	0.88 U	0.88 U
2-Methylphenol	--	--	ug/l		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Nitroaniline	--	19	ug/l		0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U
2-Nitrophenol	--	--	ug/l		0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U
3 & 4 Methylphenol	--	--	ug/l		0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
3,3'-Dichlorobenzidine	--	0.13	ug/l		1 U	1 U	1 U	1 U	1 U	1 U
3-Nitroaniline	--	--	ug/l		0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U
4,6-Dinitro-2-methylphenol	--	--	ug/l		2 U	2 U	2 U	2 U	2 U	2 U
4-Bromophenyl phenyl ether	--	--	ug/l		1 U	1 U	1 U	1 U	1 U	1 U
4-Chloro-3-methylphenol	--	--	ug/l		0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
4-Chloroaniline	--	0.37	ug/l		0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U
4-Chlorophenyl phenyl ether	--	--	ug/l		0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U
4-Nitroaniline	--	3.8	ug/l		0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U
4-Nitrophenol	--	--	ug/l		4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
Acenaphthene	--	53	ug/l		0.88 U	2.9 J	0.88 U	0.88 U	0.88 U	0.88 U
Acenaphthylene	--	--	ug/l		0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U
Acetophenone	--	190	ug/l		1 U	1.2 J	1 U	1 U	1 U	1 U
Anthracene	--	180	ug/l		1.5 J	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U
Atrazine	3	0.3	ug/l		0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U
Benzaldehyde	--	190	ug/l		0.86 U	0.86 U	0.86 U	0.86 U	0.86 U	0.86 U
Benzo[a]anthracene	--	--	ug/l		0.55 U	0.55 U	0.55 U	0.55 U	0.55 U	0.55 U
Benzo[a]pyrene	0.2	0.0034	ug/l		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Benzo[b]fluoranthene	--	0.034	ug/l		0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Benzo[g,h,i]perylene	--	--	ug/l		0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U
Benzo[k]fluoranthene	--	0.34	ug/l		0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Bis(2-chloroethoxy)methane	--	5.9	ug/l		0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
Bis(2-chloroethyl)ether	--	0.014	ug/l		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U

**Table 12. Summary of Semivolatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02
				CFPR01-BF-02-CO-1	CF-DUP050217-CO	CFPR01-BF-02-CO-2	CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1	CFPR01-BF-02-CO-CORE-2
				Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
				05/02/2017	05/02/2017	05/02/2017	05/04/2017	05/02/2017	05/03/2017
Sample Location Sample Name Sample Lab Type Sample Date Sample Type				N	FD	N	N	N	N
Bis(2-ethylhexyl) phthalate	5.6	6	ug/l	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
Butyl benzyl phthalate	--	16	ug/l	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Caprolactam	--	990	ug/l	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U
Carbazole	--	--	ug/l	21	27	3.6 J	1.7 J	0.85 U	0.85 U
Chrysene	--	3.4	ug/l	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U
Dibenz(a,h)anthracene	--	0.0034	ug/l	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
Dibenzo furan	--	0.79	ug/l	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U
Diethyl phthalate	--	--	ug/l	1 U	1 U	1 U	1 U	1 U	1 U
Dimethyl phthalate	--	--	ug/l	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U
Di-n-butyl phthalate	--	--	ug/l	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U
Di-n-octyl phthalate	--	20	ug/l	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
Fluoranthene	--	80	ug/l	2 J	3.5 J	0.9 J	0.72 U	0.72 U	0.72 U
Fluorene	--	29	ug/l	0.98 J	2.4 J	0.8 U	0.8 U	0.8 U	0.8 U
Hexachlorobenzene	1	0.0098	ug/l	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U
Hexachlorobutadiene	--	0.14	ug/l	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
Hexachlorocyclopentadiene	50	0.041	ug/l	0.61 UT	0.61 UT	0.61 UT	0.61 UT	0.61 UT	0.61 UT
Hexachloroethane	--	0.33	ug/l	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
Indeno[1,2,3-ed]pyrene	--	0.034	ug/l	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
Isophorone	--	78	ug/l	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U
Naphthalene	--	0.17	ug/l	1.3 J	2.3 J	3.3 J	1 J	1.2 J	0.8 U
Nitrobenzene	--	0.14	ug/l	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
N-Nitrosodi-n-propylamine	--	0.011	ug/l	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U
N-Nitrosodiphenylamine	--	12	ug/l	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U
Pentachlorophenol	1	0.041	ug/l	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
Phenanthrene	--	--	ug/l	2.1 J	6.3 J	1.5 J	1.4 J	0.65 U	1.1 J
Phenol	--	580	ug/l	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U	0.41 U
Pyrene	--	12	ug/l	1.3 J	1.8 J	0.83 U	0.83 U	0.83 U	0.83 U

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 12. Summary of Semivolatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	
				CFPR01-GF-01-CO-1	CFPR01-GF-01-CO-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	CFPR01-GF-01-CO-CORE-2	
				Five point composite concrete chip sample prior to cleaning		Five point composite concrete chip sample after wipe/brush		Concrete core sample 0-1" prior to cleaning	
				05/03/2017	05/04/2017	05/04/2017	05/04/2017	05/04/2017	
				N	N	N	N	N	
1,1'-Biphenyl	--	0.083	ug/l	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	
1,2,4,5-Tetrachlorobenzene	--	0.17	ug/l	0.43 U	0.43 U	0.43 U	0.43 U	0.43 U	
1,4-Dioxane	--	0.46	ug/l	3.1 U	3.1 U	3.1 U	3.1 U	3.1 U	
2,2'-oxybis[1-chloropropane]	--	--	ug/l	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	
2,3,4,6-Tetrachlorophenol	--	24	ug/l	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	
2,4,5-Trichlorophenol	--	120	ug/l	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	
2,4,6-Trichlorophenol	--	1.2	ug/l	0.53 U	0.53 U	0.53 U	0.53 U	0.53 U	
2,4-Dichlorophenol	--	4.6	ug/l	0.63 U	0.63 U	0.63 U	0.63 U	0.63 U	
2,4-Dimethylphenol	--	36	ug/l	0.91 U	0.91 U	0.91 U	0.91 U	0.91 U	
2,4-Dinitrophenol	--	3.9	ug/l	2.4 U	2.4 U	2.4 U	2.4 U	2.4 U	
2,4-Dinitrotoluene	--	0.24	ug/l	1 U	1 U	1 U	1 U	1 U	
2,6-Dinitrotoluene	--	0.049	ug/l	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	
2-Chloronaphthalene	--	--	ug/l	0.61 U	0.61 U	0.61 U	0.61 U	0.61 U	
2-Chlorophenol	--	9.1	ug/l	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	
2-Methylnaphthalene	--	3.6	ug/l	0.88 U	0.88 U	0.88 U	1.5 J	3.4 J	
2-Methylphenol	--	--	ug/l	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	
2-Nitroaniline	--	19	ug/l	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	
2-Nitrophenol	--	--	ug/l	0.59 U	0.59 U	0.59 U	0.59 U	0.59 U	
3 & 4 Methylphenol	--	--	ug/l	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	
3,3'-Dichlorobenzidine	--	0.13	ug/l	1 U	1 U	1 U	1 U	1 U	
3-Nitroaniline	--	--	ug/l	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	
4,6-Dinitro-2-methylphenol	--	--	ug/l	2 U	2 U	2 U	2 U	2 U	
4-Bromophenyl phenyl ether	--	--	ug/l	1 U	1 U	1 U	1 U	1 U	
4-Chloro-3-methylphenol	--	--	ug/l	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	
4-Chloroaniline	--	0.37	ug/l	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	
4-Chlorophenyl phenyl ether	--	--	ug/l	0.96 U	0.96 U	0.96 U	0.96 U	0.96 U	
4-Nitroaniline	--	3.8	ug/l	0.48 U	0.48 U	0.48 U	0.48 U	0.48 U	
4-Nitrophenol	--	--	ug/l	4.7 U	4.7 U	4.7 U	4.7 U	4.7 U	
Acenaphthene	--	53	ug/l	0.88 U	0.88 U	0.88 U	0.88 U	0.88 U	
Acenaphthylene	--	--	ug/l	0.65 U	0.65 U	0.65 U	0.65 U	0.65 U	
Acetophenone	--	190	ug/l	1.1 J	1.4 J	1 U	1 U	1 U	
Anthracene	--	180	ug/l	0.57 U	0.57 U	0.57 U	0.57 U	0.57 U	
Atrazine	3	0.3	ug/l	0.77 U	0.77 U	0.77 U	0.77 U	0.77 U	
Benzaldehyde	--	190	ug/l	0.86 U	0.86 U	0.86 U	0.86 U	0.86 U	
Benzo[a]anthracene	--	--	ug/l	1.7	0.55 U	0.55 U	0.55 U	0.55 U	
Benzo[a]pyrene	0.2	0.0034	ug/l	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	
Benzo[b]fluoranthene	--	0.034	ug/l	0.44 U	0.44 U	0.44 U	0.44 U	0.44 U	
Benzo[g,h,i]perylene	--	--	ug/l	0.75 U	0.75 U	0.75 U	0.75 U	0.75 U	
Benzo[k]fluoranthene	--	0.34	ug/l	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	
Bis(2-chloroethoxy)methane	--	5.9	ug/l	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	
Bis(2-chloroethyl)ether	--	0.014	ug/l	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	

**Table 12. Summary of Semivolatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	
				CFPR01-GF-01-CO-1	CFPR01-GF-01-CO-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	CFPR01-GF-01-CO-CORE-2	
				Five point composite concrete chip sample prior to cleaning		Five point composite concrete chip sample after wipe/brush		Concrete core sample 0-1" prior to cleaning	
				05/03/2017	05/04/2017	05/04/2017	05/04/2017	05/04/2017	
				N	N	N	N	N	
Bis(2-ethylhexyl) phthalate	5.6	6	ug/l	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	
Butyl benzyl phthalate	--	16	ug/l	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U	
Caprolactam	--	990	ug/l	1.1 U	1.1 U	1.1 U	1.1 U	1.1 U	
Carbazole	--	--	ug/l	73	13	19	3.2 J	0.88 J	
Chrysene	--	3.4	ug/l	1.6 J	0.67 U	0.67 U	0.67 U	0.67 U	
Dibenz(a,h)anthracene	--	0.0034	ug/l	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	
Dibenzo furan	--	0.79	ug/l	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U	
Diethyl phthalate	--	--	ug/l	1 U	1 U	1 U	1 U	1 U	
Dimethyl phthalate	--	--	ug/l	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U	
Di-n-butyl phthalate	--	--	ug/l	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U	
Di-n-octyl phthalate	--	20	ug/l	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U	
Fluoranthene	--	80	ug/l	11	2.3 J	2.5 J	0.85 J	0.72 U	
Fluorene	--	29	ug/l	0.8 U	0.8 U	0.8 U	0.8 U	0.8 U	
Hexachlorobenzene	1	0.0098	ug/l	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	
Hexachlorobutadiene	--	0.14	ug/l	0.76 U	0.76 U	0.76 U	0.76 U	0.76 U	
Hexachlorocyclopentadiene	50	0.041	ug/l	0.61 UT	0.61 UT	0.61 UT	0.61 UT	0.61 UT	
Hexachloroethane	--	0.33	ug/l	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	
Indeno[1,2,3-ed]pyrene	--	0.034	ug/l	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U	
Isophorone	--	78	ug/l	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	
Naphthalene	--	0.17	ug/l	1.3 J	0.8 U	0.8 U	1.6 J	3.9 J	
Nitrobenzene	--	0.14	ug/l	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U	
N-Nitrosodi-n-propylamine	--	0.011	ug/l	0.83 U	0.83 U	0.83 U	0.83 U	0.83 U	
N-Nitrosodiphenylamine	--	12	ug/l	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U	
Pentachlorophenol	1	0.041	ug/l	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U	
Phenanthrene	--	--	ug/l	6.1 J	3.1 J	2.3 J	2 J	0.79 J	
Phenol	--	580	ug/l	1.2 J	1.2 J	0.41 U	0.41 U	0.41 U	
Pyrene	--	12	ug/l	3.5 J	1 J	1.1 J	0.83 U	0.83 U	

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 12. Summary of Semivolatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit	Sample Location Sample Name	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02
				Sample Lab Type	CFPR01-GF-02-CO-1	CFPR01-GF-02-CO-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1	CFPR01-GF-02-CO-CORE-2
				Sample Date	Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
				Sample Type	05/03/2017	05/03/2017	05/04/2017	05/03/2017	05/03/2017
			N		N	N	N	N	N
1,1'-Biphenyl	--	0.083	ug/l		0.63 U	0.63 U	0.63 U	0.71 J	0.63 U
1,2,4,5-Tetrachlorobenzene	--	0.17	ug/l		0.43 UT	0.43 U	0.43 U	0.43 U	0.43 U
1,4-Dioxane	--	0.46	ug/l		3.1 U	3.1 U	3.1 U	3.1 U	3.1 U
2,2'-oxybis[1-chloropropane]	--	--	ug/l		0.93 U	0.93 U	0.93 U	0.93 U	0.93 U
2,3,4,6-Tetrachlorophenol	--	24	ug/l		0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
2,4,5-Trichlorophenol	--	120	ug/l		0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
2,4,6-Trichlorophenol	--	1.2	ug/l		0.53 U	0.53 U	0.53 U	0.53 U	0.53 U
2,4-Dichlorophenol	--	4.6	ug/l		0.63 U	0.63 U	0.63 U	0.63 U	0.63 U
2,4-Dimethylphenol	--	36	ug/l		0.91 U	0.91 U	0.91 U	0.91 U	0.91 U
2,4-Dinitrophenol	--	3.9	ug/l		2.4 U	2.4 U	2.4 U	2.4 U	2.4 U
2,4-Dinitrotoluene	--	0.24	ug/l		1 U	1 U	1 U	1 U	1 U
2,6-Dinitrotoluene	--	0.049	ug/l		0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
2-Chloronaphthalene	--	--	ug/l		0.61 U	0.61 U	0.61 U	0.61 U	0.61 U
2-Chlorophenol	--	9.1	ug/l		0.74 U	0.74 U	0.74 U	0.74 U	0.74 U
2-Methylnaphthalene	--	3.6	ug/l		1.2 J	0.88 U	0.88 U	2 J	0.92 J
2-Methylphenol	--	--	ug/l		1.3 U	1.3 U	1.3 U	1.3 U	1.3 U
2-Nitroaniline	--	19	ug/l		0.65 U	0.65 U	0.65 U	0.65 U	0.65 U
2-Nitrophenol	--	--	ug/l		0.59 U	0.59 U	0.59 U	0.59 U	0.59 U
3 & 4 Methylphenol	--	--	ug/l		0.88 U	0.88 U	0.88 U	0.88 U	0.88 U
3,3'-Dichlorobenzidine	--	0.13	ug/l		1 UT	1 U	1 U	1 U	1 U
3-Nitroaniline	--	--	ug/l		0.82 UT	0.82 U	0.82 U	0.82 U	0.82 U
4,6-Dinitro-2-methylphenol	--	--	ug/l		2 U	2 U	2 U	2 U	2 U
4-Bromophenyl phenyl ether	--	--	ug/l		1 U	1 U	1 U	1 U	1 U
4-Chloro-3-methylphenol	--	--	ug/l		0.76 U	0.76 U	0.76 U	0.76 U	0.76 U
4-Chloroaniline	--	0.37	ug/l		0.73 UT	0.73 U	0.73 U	0.73 U	0.73 U
4-Chlorophenyl phenyl ether	--	--	ug/l		0.96 U	0.96 U	0.96 U	0.96 U	0.96 U
4-Nitroaniline	--	3.8	ug/l		0.48 UT	0.48 U	0.48 U	0.48 U	0.48 U
4-Nitrophenol	--	--	ug/l		4.7 U	4.7 U	4.7 U	4.7 U	4.7 U
Acenaphthene	--	53	ug/l		0.88 U	0.88 U	0.88 U	2.6 J	0.88 U
Acenaphthylene	--	--	ug/l		0.65 U	0.65 J	0.65 U	3.4 J	0.65 U
Acetophenone	--	190	ug/l		1 U	1.2 J	1 U	1 U	1.4 J
Anthracene	--	180	ug/l		0.57 U	0.57 U	0.57 U	1.1 J	0.57 U
Atrazine	3	0.3	ug/l		0.77 U	0.77 U	0.77 U	0.77 U	0.77 U
Benzaldehyde	--	190	ug/l		0.86 U	0.86 U	0.86 U	0.86 U	0.86 U
Benzo[a]anthracene	--	--	ug/l		0.55 U	0.55 U	0.55 U	0.55 U	1.8
Benzo[a]pyrene	0.2	0.0034	ug/l		0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Benzo[b]fluoranthene	--	0.034	ug/l		0.44 U	0.44 U	0.44 U	0.44 U	0.44 U
Benzo[g,h,i]perylene	--	--	ug/l		0.75 UT	0.75 U	0.75 U	0.75 U	0.75 U
Benzo[k]fluoranthene	--	0.34	ug/l		0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Bis(2-chloroethoxy)methane	--	5.9	ug/l		0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
Bis(2-chloroethyl)ether	--	0.014	ug/l		0.12 U	0.12 U	0.12 U	0.12 U	0.12 U

**Table 12. Summary of Semivolatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02
				CFPR01-GF-02-CO-1	CFPR01-GF-02-CO-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1	CFPR01-GF-02-CO-CORE-2
				Five point composite concrete chip sample prior to cleaning		Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning
				05/03/2017	05/03/2017	05/04/2017	05/03/2017	05/03/2017
				N	N	N	N	N
Bis(2-ethylhexyl) phthalate	5.6	6	ug/l	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
Butyl benzyl phthalate	--	16	ug/l	0.6 U	0.6 U	0.6 U	0.6 U	0.6 U
Caprolactam	--	990	ug/l	1.1 UT	1.1 U	1.1 U	1.1 U	1.1 U
Carbazole	--	--	ug/l	140 T	11	7.6 J	1.4 J	16
Chrysene	--	3.4	ug/l	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U
Dibenz(a,h)anthracene	--	0.0034	ug/l	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
Dibenzofuran	--	0.79	ug/l	0.85 U	0.85 U	0.85 U	0.85 U	0.85 U
Diethyl phthalate	--	--	ug/l	1 U	1 U	1 U	1 U	1 U
Dimethyl phthalate	--	--	ug/l	0.98 U	0.98 U	0.98 U	0.98 U	0.98 U
Di-n-butyl phthalate	--	--	ug/l	0.82 U	0.82 U	0.82 U	0.82 U	0.82 U
Di-n-octyl phthalate	--	20	ug/l	0.69 U	0.69 U	0.69 U	0.69 U	0.69 U
Fluoranthene	--	80	ug/l	13	4.3 J	1.7 J	1.9 J	3.9 J
Fluorene	--	29	ug/l	0.8 U	1.4 J	0.8 U	6.1 J	0.8 U
Hexachlorobenzene	1	0.0098	ug/l	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U
Hexachlorobutadiene	--	0.14	ug/l	0.76 UT	0.76 U	0.76 U	0.76 U	0.76 U
Hexachlorocyclopentadiene	50	0.041	ug/l	0.61 UT	0.61 UT	0.61 UT	0.61 UT	0.61 UT
Hexachloroethane	--	0.33	ug/l	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U
Indeno[1,2,3-ed]pyrene	--	0.034	ug/l	0.21 U	0.21 U	0.21 U	0.21 U	0.21 U
Isophorone	--	78	ug/l	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U
Naphthalene	--	0.17	ug/l	2.3 J	0.8 U	0.8 U	1.6 J	1 J
Nitrobenzene	--	0.14	ug/l	0.49 U	0.49 U	0.49 U	0.49 U	0.49 U
N-Nitrosodi-n-propylamine	--	0.011	ug/l	0.83 UT	0.83 U	0.83 U	0.83 U	0.83 U
N-Nitrosodiphenylamine	--	12	ug/l	0.74 U	0.74 U	0.74 U	0.74 U	0.74 U
Pentachlorophenol	1	0.041	ug/l	2.2 U	2.2 U	2.2 U	2.2 U	2.2 U
Phenanthrene	--	--	ug/l	11	8 J	3.7 J	12	6.4 J
Phenol	--	580	ug/l	0.41 U	0.41 U	0.41 U	0.41 U	2.1 J
Pyrene	--	12	ug/l	5.6 J	1.1 J	0.83 U	1.2 J	1.2 J

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 13. Summary of Metals in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit	Sample Location		CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02
				Sample Name	CFPR01-BF-02-CO-1	CF-DUP050217-CO	CFPR01-BF-02-CO-2	CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1	CFPR01-BF-02-CO-CORE-2	
					Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush	
					05/02/2017	05/02/2017	05/02/2017	05/04/2017	05/02/2017	05/03/2017	
				Sample Date	N	FD	N	N	N	N	
				Sample Type							
Aluminum	--	2000	ug/l	6710 B	4960 B	671 B	337 B	1000 B	896 B		
Antimony	6	0.78	ug/l	0.74 J	1 J	0.73 J	1.1 J	0.62 U	0.62 U		
Arsenic	10	0.052	ug/l	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U		
Barium	2000	380	ug/l	13.2	13.8	23.4	52	160	218		
Beryllium	4	2.5	ug/l	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U		
Cadmium	--	--	ug/l	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U		
Calcium	--	--	ug/l	49300	42700	70700	48600	160000	216000		
Chromium	100	--	ug/l	9.9	9.8	9.6	12.6	11.5	12		
Cobalt	--	0.6	ug/l	1.3 U	1.3 U	1.3 U	1.7 J	1.6 J	1.3 U		
Copper	1300	80	ug/l	2 J	1.6 J	1.6 J	2.8 J	1.8 J	1.4 U		
Cyanide, Free	200	0.15	ug/l	1.5 U	1.5 U	1.5 U	9.8	36	24.9		
Iron	--	1400	ug/l	42.4 U	42.4 U	56.8 J	93.7 J	42.4 U	42.4 U		
Lead	15	15	ug/l	0.38 U	0.38 U	0.38 U	0.38 U	0.38 U	0.46 J		
Magnesium	--	--	ug/l	165 J	167 J	146 J	192 J	67.1 J	68.3 J		
Manganese	--	--	ug/l	2.5 U	2.5 U	2.5 U	2.8 J	2.5 U	2.5 U		
Mercury	2	0.063	ug/l	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U		
Nickel	--	--	ug/l	1.4 U	1.4 U	1.4 U	1.5 J	1.4 U	1.4 U		
Potassium	--	--	ug/l	7260 B	7160 B	7410 B	9940 B	12000 B	15300 B		
Selenium	50	10	ug/l	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U	0.73 U		
Silver	--	9.4	ug/l	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U		
Sodium	--	--	ug/l	53800	50100	25800	29300	22100	16600		
Thallium	2	0.02	ug/l	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U		
Vanadium	--	8.6	ug/l	15.9	16	21.5	12.7	1.9 U	1.9 U		
Zinc	--	600	ug/l	7 U	7 U	7 U	7 U	7 U	7 U		

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 13. Summary of Metals in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit	Sample Location	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01
				Sample Name	CFPR01-GF-01-CO-1	CFPR01-GF-01-CO-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	CFPR01-GF-01-CO-CORE-2
				Sample Lab Type	Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
				Sample Date	05/03/2017	05/04/2017	05/04/2017	05/04/2017	05/04/2017
				Sample Type	N	N	N	N	N
Aluminum	--	2000	ug/l	24700 B	1360 B	1880 B	986 B	719 B	
Antimony	6	0.78	ug/l	1.3 J	0.84 J	0.7 J	0.62 U	0.62 U	
Arsenic	10	0.052	ug/l	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	
Barium	2000	380	ug/l	17	22.9	19.5	416	581	
Beryllium	4	2.5	ug/l	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	
Cadmium	--	--	ug/l	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	
Calcium	--	--	ug/l	27000	70200	28600	279000	381000	
Chromium	100	--	ug/l	22	13	2.7 J	12.8	9.9	
Cobalt	--	0.6	ug/l	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	
Copper	1300	80	ug/l	2.8 J	1.8 J	1.4 U	1.4 U	1.4 U	
Cyanide, Free	200	0.15	ug/l	1.5 U	1.5 U	1.5 U	7	11.7	
Iron	--	1400	ug/l	360	42.4 U	42.8 J	310	42.4 U	
Lead	15	15	ug/l	0.54 J	0.38 U	0.38 U	0.53 J	0.58 J	
Magnesium	--	--	ug/l	498	175 J	96.4 J	201	67.9 J	
Manganese	--	--	ug/l	8.2	2.5 U	3.5 J	5.7 J	2.5 U	
Mercury	2	0.063	ug/l	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	
Nickel	--	--	ug/l	2.7 J	1.4 U	1.4 U	1.4 U	1.4 U	
Potassium	--	--	ug/l	6920 B	3830 B	3580 B	10400 B	13700 B	
Selenium	50	10	ug/l	0.99 J	0.73 U	0.73 U	0.73 U	0.73 U	
Silver	--	9.4	ug/l	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	
Sodium	--	--	ug/l	98600	36700	79900	32700	18600	
Thallium	2	0.02	ug/l	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	
Vanadium	--	8.6	ug/l	12.1	18.4	15.1	1.9 U	1.9 U	
Zinc	--	600	ug/l	8.8 J	7 U	7 U	7 U	7 U	

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 13. Summary of Metals in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit	Sample Location	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02
				Sample Name	CFPR01-GF-02-CO-1	CFPR01-GF-02-CO-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1	CFPR01-GF-02-CO-CORE-2
				Sample Lab Type	Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
				Sample Date	05/03/2017	05/03/2017	05/04/2017	05/03/2017	05/03/2017
				Sample Type	N	N	N	N	N
Aluminum	--	2000	ug/l	44500 B	2320 B	1700 B	946 B	1870 B	
Antimony	6	0.78	ug/l	1.4 J	0.99 J	0.62 U	0.62 U	0.87 J	
Arsenic	10	0.052	ug/l	0.64 U	0.64 U	0.64 U	0.64 U	0.64 U	
Barium	2000	380	ug/l	26.2	42.4	73.3	504	46.9	
Beryllium	4	2.5	ug/l	0.24 U	0.24 U	0.24 U	0.24 U	0.24 U	
Cadmium	--	--	ug/l	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	
Calcium	--	--	ug/l	43200	85500	122000	288000	84700	
Chromium	100	--	ug/l	18	12	4.5	11.2	14.1	
Cobalt	--	0.6	ug/l	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	
Copper	1300	80	ug/l	2.8 J	1.8 J	1.4 U	1.4 U	2.1 J	
Cyanide, Free	200	0.15	ug/l	1.5 U	1.5 U	1.5 U	1.5 U	1.5 U	
Iron	--	1400	ug/l	65.7 J	42.4 U	42.4 U	42.4 U	81.2 J	
Lead	15	15	ug/l	0.38 U	0.38 U	0.38 U	0.39 J	0.38 U	
Magnesium	--	--	ug/l	190 J	131 J	66.1 J	68.4 J	154 J	
Manganese	--	--	ug/l	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	
Mercury	2	0.063	ug/l	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U	
Nickel	--	--	ug/l	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	
Potassium	--	--	ug/l	12500 B	5390 B	7830 B	11900 B	5610 B	
Selenium	50	10	ug/l	1.6 J	0.73 U	0.73 U	0.73 U	0.73 U	
Silver	--	9.4	ug/l	1.3 U	1.3 U	1.3 U	1.3 U	1.3 U	
Sodium	--	--	ug/l	97200	19000	15900	13000	20200	
Thallium	2	0.02	ug/l	0.26 U	0.26 U	0.26 U	0.26 U	0.26 U	
Vanadium	--	8.6	ug/l	10	8	5.3	1.9 U	7.6	
Zinc	--	600	ug/l	7 U	7 U	7 U	7 U	7 U	

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 14. Summary of General Chemistry in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Sample Location Sample Name			CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02
			CFPR01-BF-02-CO-1	CF-DUP050217-CO	CFPR01-BF-02-CO-2	CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1	CFPR01-BF-02-CO-CORE-2
Sample Lab Type			Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
			05/02/2017	05/02/2017	05/02/2017	05/04/2017	05/02/2017	05/03/2017
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit	N	FD	N	N	N
Fluoride	4000	80	ug/l	33300 D	26100 D	4340 D	3830	165
								141

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 14. Summary of General Chemistry in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Sample Location Sample Name			CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01
			CFPR01-GF-01-CO-1	CFPR01-GF-01-CO-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	CFPR01-GF-01-CO-CORE-2
Sample Lab Type			Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
			05/03/2017	05/04/2017	05/04/2017	05/04/2017	05/04/2017
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit	N	N	N	N
Fluoride	4000	80	ug/l	32500 D	11600 D	9920 D	681
							332

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 14. Summary of General Chemistry in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Sample Location Sample Name			CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02
			CFPR01-GF-02-CO-1	CFPR01-GF-02-CO-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1	CFPR01-GF-02-CO-CORE-2
Sample Lab Type			Five point composite concrete chip sample prior to cleaning	Five point composite concrete chip sample after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Concrete core sample 0-6" after wipe/brush
			05/03/2017	05/03/2017	05/04/2017	05/03/2017	05/03/2017
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit	N	N	N	N
Fluoride	4000	80	ug/l	<b>35500 D</b>	<b>9690 D</b>	<b>4480 D</b>	316
							<b>8340 D</b>

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 15. Weighted Average Evaluation of Semivolatile Organic Compounds in Concrete**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	Sample Location			CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01
	Sample Name			CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1		CFPR01-BF-02-CO-CORE-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	
	Sample Lab Type			Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation	Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation
	Sample Date			05/04/2017	05/02/2017		05/03/2017	05/04/2017	05/04/2017	
	Sample Type			N	N		N	N	N	
	Core Volume % from 0-1"					0.167				0.167
	Core Volume % from 1-6"					0.833				0.833
Analyte	EPA Industrial Soil RSL	EPA Residential Soil RSL	Unit							
1,1'-Biphenyl	20	4.7	mg/kg	0.029 U	0.15 U		0.15 U	0.029 U	0.029 U	
1,2,4,5-Tetrachlorobenzene	35	2.3	mg/kg	0.025 U	0.13 U		0.13 U	0.026 U	0.026 U	
1,4-Dioxane	24	5.3	mg/kg	0.092 U	0.46 U		0.46 U	0.092 U	0.092 U	
2,2'-oxybis[1-chloropropane]	4700	310	mg/kg	0.014 U	0.071 U		0.071 U	0.014 U	0.014 U	
2,3,4,6-Tetrachlorophenol	2500	190	mg/kg	0.032 U	0.16 U		0.16 U	0.032 U	0.032 U	
2,4,5-Trichlorophenol	8200	630	mg/kg	0.034 U	0.17 U		0.17 U	0.034 U	0.034 U	
2,4,6-Trichlorophenol	82	6.3	mg/kg	0.0097 U	0.049 U		0.049 U	0.0098 U	0.0098 U	
2,4-Dichlorophenol	250	19	mg/kg	0.0081 U	0.041 U		0.041 U	0.0081 U	0.0081 U	
2,4-Dimethylphenol	1600	130	mg/kg	0.075 U	0.38 U		0.38 U	0.076 U	0.076 U	
2,4-Dinitrophenol	160	13	mg/kg	0.26 U	1.3 U		1.3 U	0.26 U	0.26 U	
2,4-Dinitrotoluene	7.4	1.7	mg/kg	0.014 U	0.069 U		0.069 U	0.014 U	0.014 U	
2,6-Dinitrotoluene	1.5	0.36	mg/kg	0.018 U	0.092 U		0.092 U	0.018 U	0.018 U	
2-Chloronaphthalene	6000	480	mg/kg	0.0078 U	0.039 U		0.039 U	0.0078 U	0.0078 U	
2-Chlorophenol	580	39	mg/kg	0.0087 U	0.044 U		0.044 U	0.0087 U	0.0088 U	
2-Methylnaphthalene	300	24	mg/kg	0.0076 U	0.038 U		0.038 U	0.0076 U	0.0076 U	
2-Methylphenol	4100	320	mg/kg	0.015 U	0.075 U		0.075 U	0.015 U	0.015 U	
2-Nitroaniline	800	63	mg/kg	0.011 U	0.057 U		0.057 U	0.011 U	0.011 U	
2-Nitrophenol	--	--	mg/kg	0.012 U	0.058 U		0.058 U	0.012 U	0.012 U	
3 & 4 Methylphenol	--	--	mg/kg	0.0091 U	0.046 U		0.046 U	0.0091 U	0.0092 U	
3,3'-Dichlorobenzidine	5.1	1.2	mg/kg	0.038 U	0.19 U		0.19 U	0.038 U	0.038 U	
3-Nitroaniline	--	--	mg/kg	0.01 U	0.051 U		0.051 U	0.01 U	0.01 U	
4,6-Dinitro-2-methylphenol	6.6	0.51	mg/kg	0.091 U	0.46 U		0.46 U	0.092 U	0.092 U	
4-Bromophenyl phenyl ether	--	--	mg/kg	0.011 U	0.054 U		0.054 U	0.011 U	0.011 U	
4-Chloro-3-methylphenol	8200	630	mg/kg	0.015 U	0.074 U		0.074 U	0.015 U	0.015 U	
4-Chloroaniline	11	2.7	mg/kg	0.0088 U	0.044 U		0.045 U	0.0088 U	0.0089 U	
4-Chlorophenyl phenyl ether	--	--	mg/kg	0.01 U	0.052 U		0.052 U	0.01 U	0.01 U	
4-Nitroaniline	110	25	mg/kg	0.013 U	0.065 U		0.065 U	0.013 U	0.013 U	
4-Nitrophenol	--	--	mg/kg	0.16 U	0.83 U		0.83 U	0.17 U	0.17 U	
Acenaphthene	4500	360	mg/kg	0.0083 U	0.042 U		0.042 U	0.0083 U	0.0083 U	
Acenaphthylene	--	--	mg/kg	0.0088 U	0.044 U		0.045 U	0.0088 U	0.0089 U	
Acetophenone	12000	780	mg/kg	0.0075 U	0.038 U		0.038 U	0.0075 U	0.0075 U	
Anthracene	23000	1800	mg/kg	0.033 U	0.16 U		0.16 U	0.079 J	0.033 U	0.03
Atrazine	10	2.4	mg/kg	0.015 U	0.077 U		0.077 U	0.015 U	0.015 U	
Benzaldehyde	820	170	mg/kg	0.026 U	0.13 U		0.13 U	0.026 U	0.026 U	
Benzo[a]anthracene	2.9	0.16	mg/kg	0.029 U	0.14 U		0.14 U	0.42	0.029 U	0.08
Benzo[a]pyrene	0.29	0.016	mg/kg	0.01 U	0.052 U		0.052 U	0.24	0.01 U	0.04
Benzo[b]fluoranthene	2.9	0.16	mg/kg	0.11	0.067 U	0.05	0.068 U	1.1	0.17	0.33
Benzo[g,h,i]perylene	--	--	mg/kg	0.02 U	0.099 U		0.1 U	0.37	0.02 U	0.07

**Table 15. Weighted Average Evaluation of Semivolatile Organic Compounds in Concrete**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

	Sample Location Sample Name		CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01
			CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1		CFPR01-BF-02-CO-CORE-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	
	Sample Lab Type		Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation	Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation
			05/04/2017	05/02/2017		05/03/2017	05/04/2017	05/04/2017	
	Sample Date Sample Type		N	N		N	N	N	
	Core Volume % from 0-1"				0.167				0.167
	Core Volume % from 1-6"				0.833				0.833
Analyte	EPA Industrial Soil RSL	EPA Residential Soil RSL	Unit						
Benzo[k]fluoranthene	29	1.6	mg/kg	0.015 U	0.075 U		0.075 U	0.36	0.015 U
Bis(2-chloroethoxy)methane	250	19	mg/kg	0.011 U	0.054 U		0.054 U	0.011 U	0.011 U
Bis(2-chloroethyl)ether	1	0.23	mg/kg	0.0081 U	0.041 U		0.041 U	0.0081 U	0.0081 U
Bis(2-ethylhexyl) phthalate	160	39	mg/kg	0.013 U	0.067 U		0.068 U	0.013 U	0.013 U
Butyl benzyl phthalate	1200	290	mg/kg	0.011 U	0.053 U		0.053 U	0.011 U	0.011 U
Caprolactam	40000	3100	mg/kg	0.025 U	0.12 U		0.12 U	0.025 U	0.025 U
Carbazole	--	--	mg/kg	0.0085 U	0.043 U		0.043 U	0.69	0.073 J
Chrysene	290	16	mg/kg	0.17 J	0.047 U	0.05	0.047 U	1.4	0.25 J
Dibenz(a,h)anthracene	<b>0.29</b>	0.016	mg/kg	0.018 U	0.09 U		0.09 U	0.15	0.018 U
Dibenzofuran	100	7.3	mg/kg	0.01 U	0.052 U		0.052 U	0.01 U	0.01 U
Diethyl phthalate	66000	5100	mg/kg	0.0097 U	0.049 U		0.049 U	0.0098 U	0.0098 U
Dimethyl phthalate	--	--	mg/kg	0.01 U	0.05 U		0.05 U	0.01 U	0.01 U
Di-n-butyl phthalate	8200	630	mg/kg	0.01 U	0.052 U		0.052 U	0.01 U	0.01 U
Di-n-octyl phthalate	820	63	mg/kg	0.017 U	0.088 U		0.088 U	0.017 U	0.018 U
Fluoranthene	3000	240	mg/kg	0.49	0.051 U	0.10	0.051 U	4.9	0.78
Fluorene	3000	240	mg/kg	0.0075 U	0.038 U		0.038 U	0.0075 U	0.0075 U
Hexachlorobenzene	0.96	0.21	mg/kg	0.014 U	0.07 U		0.07 U	0.014 U	0.014 U
Hexachlorobutadiene	5.3	1.2	mg/kg	0.0096 U	0.049 U		0.049 U	0.0097 U	0.0097 U
Hexachlorocyclopentadiene	0.75	0.18	mg/kg	0.021 U	0.11 U		0.11 U	0.021 U	0.021 U
Hexachloroethane	8	1.8	mg/kg	0.013 U	0.063 U		0.063 U	0.013 U	0.013 U
Indeno[1,2,3-cd]pyrene	<b>2.9</b>	0.16	mg/kg	0.023 U	0.12 U		0.12 U	0.42	0.023 U
Isophorone	2400	570	mg/kg	0.0074 U	2	1.67	0.82	0.0074 U	0.0074 U
Naphthalene	17	3.8	mg/kg	0.0087 U	0.044 U		0.044 U	0.0087 U	0.0088 U
Nitrobenzene	22	5.1	mg/kg	0.011 U	0.054 U		0.054 U	0.011 U	0.011 U
N-Nitrosodi-n-propylamine	0.33	0.078	mg/kg	0.012 U	0.058 U		0.058 U	0.012 U	0.012 U
N-Nitrosodiphenylamine	470	110	mg/kg	0.031 U	0.16 U		0.16 U	0.031 U	0.031 U
Pentachlorophenol	4	1	mg/kg	0.041 U	0.21 U		0.21 U	0.042 U	0.042 U
Phenanthrene	--	--	mg/kg	0.16 J	0.046 U	0.05	0.046 U	1.3	0.41
Phenol	25000	1900	mg/kg	0.011 U	0.056 U		0.057 U	0.011 U	0.011 U
Pyrene	2300	180	mg/kg	0.13 J	0.078 U	0.05	0.079 U	1.7	0.23 J

Bold data indicates that parameter was detected above the EPA Residential Soil RSLs

Shaded data indicates that parameter was detected above the EPA Industrial Soil RSLs

**Table 15. Weighted Average Evaluation of Semivolatile Organic Compounds in Concrete**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

	Sample Location Sample Name		CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	
			CFPR01-GF-01-CO-CORE-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1		CFPR01-GF-02-CO-CORE-2	
	Sample Lab Type		Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation	Concrete core sample 0-6" after wipe/brush	
			05/04/2017	05/04/2017	05/03/2017		05/03/2017	
	Sample Date Sample Type		N	N	N		N	
	Core Volume % from 0-1"					0.167		
	Core Volume % from 1-6"					0.833		
Analyte	EPA Industrial Soil RSL	EPA Residential Soil RSL	Unit					
1,1'-Biphenyl	20	4.7	mg/kg	0.029 U	0.029 U	0.029 U	0.029 U	
1,2,4,5-Tetrachlorobenzene	35	2.3	mg/kg	0.025 U	0.025 U	0.026 U	0.025 U	
1,4-Dioxane	24	5.3	mg/kg	0.091 U	0.091 U	0.092 U	0.09 U	
2,2'-oxybis[1-chloropropane]	4700	310	mg/kg	0.014 U	0.014 U	0.014 U	0.014 U	
2,3,4,6-Tetrachlorophenol	2500	190	mg/kg	0.032 U	0.032 U	0.032 U	0.032 U	
2,4,5-Trichlorophenol	8200	630	mg/kg	0.034 U	0.034 U	0.034 U	0.034 U	
2,4,6-Trichlorophenol	82	6.3	mg/kg	0.0097 U	0.0096 U	0.0098 U	0.0096 U	
2,4-Dichlorophenol	250	19	mg/kg	0.008 U	0.008 U	0.0081 U	0.0079 U	
2,4-Dimethylphenol	1600	130	mg/kg	0.075 U	0.075 U	0.076 U	0.074 U	
2,4-Dinitrophenol	160	13	mg/kg	0.26 U	0.26 U	0.26 U	0.25 U	
2,4-Dinitrotoluene	7.4	1.7	mg/kg	0.013 U	0.013 U	0.014 U	0.013 U	
2,6-Dinitrotoluene	1.5	0.36	mg/kg	0.018 U	0.018 U	0.018 U	0.018 U	
2-Chloronaphthalene	6000	480	mg/kg	0.0077 U	0.0077 U	0.0078 U	0.0076 U	
2-Chlorophenol	580	39	mg/kg	0.0086 U	0.0086 U	0.0088 U	0.0086 U	
2-Methylnaphthalene	300	24	mg/kg	0.0075 U	0.0075 U	0.0076 U	0.0074 U	
2-Methylphenol	4100	320	mg/kg	0.015 U	0.015 U	0.015 U	0.015 U	
2-Nitroaniline	800	63	mg/kg	0.011 U	0.011 U	0.011 U	0.011 U	
2-Nitrophenol	--	--	mg/kg	0.011 U	0.011 U	0.012 U	0.011 U	
3 & 4 Methylphenol	--	--	mg/kg	0.009 U	0.009 U	0.0092 U	0.009 U	
3,3'-Dichlorobenzidine	5.1	1.2	mg/kg	0.038 U	0.038 U	0.038 U	0.038 U	
3-Nitroaniline	--	--	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	
4,6-Dinitro-2-methylphenol	6.6	0.51	mg/kg	0.091 U	0.09 U	0.092 U	0.09 U	
4-Bromophenyl phenyl ether	--	--	mg/kg	0.011 U	0.011 U	0.011 U	0.011 U	
4-Chloro-3-methylphenol	8200	630	mg/kg	0.015 U	0.015 U	0.015 U	0.014 U	
4-Chloroaniline	11	2.7	mg/kg	0.0087 U	0.0087 U	0.0089 U	0.0087 U	
4-Chlorophenyl phenyl ether	--	--	mg/kg	0.01 U	0.01 U	0.01 U	0.01 U	
4-Nitroaniline	110	25	mg/kg	0.013 U	0.013 U	0.013 U	0.013 U	
4-Nitrophenol	--	--	mg/kg	0.16 U	0.16 U	0.17 U	0.16 U	
Acenaphthene	4500	360	mg/kg	0.0082 U	0.0082 U	0.0083 U	0.0082 U	
Acenaphthylene	--	--	mg/kg	0.0087 U	0.0087 U	0.0089 U	0.0087 U	
Acetophenone	12000	780	mg/kg	0.0074 U	0.0074 U	0.0075 U	0.0073 U	
Anthracene	23000	1800	mg/kg	0.032 U	0.032 U	0.033 U	0.032 U	
Atrazine	10	2.4	mg/kg	0.015 U	0.015 U	0.015 U	0.015 U	
Benzaldehyde	820	170	mg/kg	0.026 U	0.026 U	0.026 U	0.026 U	
Benzo[a]anthracene	2.9	0.16	mg/kg	0.028 U	0.14	0.029 U	0.04	0.028 U
Benzo[a]pyrene	0.29	0.016	mg/kg	0.01 U	0.065	0.01 U	0.02	0.01 U
Benzo[b]fluoranthene	2.9	0.16	mg/kg	0.013 U	0.63	0.013 U	0.11	0.28
Benzo[g,h,i]perylene	--	--	mg/kg	0.02 U	0.19 J	0.02 U	0.04	0.019 U

**Table 15. Weighted Average Evaluation of Semivolatile Organic Compounds in Concrete**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

	Sample Location Sample Name		CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	
			CFPR01-GF-01-CO-CORE-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1		CFPR01-GF-02-CO-CORE-2	
	Sample Lab Type		Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation	Concrete core sample 0-6" after wipe/brush	
			05/04/2017	05/04/2017	05/03/2017		05/03/2017	
	Sample Date Sample Type		N	N	N		N	
	Core Volume % from 0-1"					0.167		
	Core Volume % from 1-6"					0.833		
Analyte	EPA Industrial Soil RSL	EPA Residential Soil RSL	Unit					
Benzo[k]fluoranthene	29	1.6	mg/kg	0.015 U	0.13	0.015 U	0.03	0.015 U
Bis(2-chloroethoxy)methane	250	19	mg/kg	0.011 U	0.011 U	0.011 U		0.01 U
Bis(2-chloroethyl)ether	1	0.23	mg/kg	0.008 U	0.008 U	0.0081 U		0.0079 U
Bis(2-ethylhexyl) phthalate	160	39	mg/kg	0.013 U	0.013 U	0.013 U		0.013 U
Butyl benzyl phthalate	1200	290	mg/kg	0.01 U	0.23 J	0.011 U	0.04	0.01 U
Caprolactam	40000	3100	mg/kg	0.024 U	0.024 U	0.025 U		0.024 U
Carbazole	--	--	mg/kg	0.0084 U	0.36	0.0085 U	0.06	0.079 J
Chrysene	290	16	mg/kg	0.058 J	0.91	0.077 J	0.22	0.41
Dibenz(a,h)anthracene	<b>0.29</b>	0.016	mg/kg	0.018 U	0.018 U	0.018 U		0.018 U
Dibenzofuran	100	7.3	mg/kg	0.01 U	0.036 J	0.01 U	0.01	0.01 U
Diethyl phthalate	66000	5100	mg/kg	0.0097 U	0.0096 U	0.0098 U		0.0096 U
Dimethyl phthalate	--	--	mg/kg	0.0099 U	0.0098 U	0.01 U		0.0098 U
Di-n-butyl phthalate	8200	630	mg/kg	0.01 U	0.01 U	0.01 U		0.01 U
Di-n-octyl phthalate	820	63	mg/kg	0.017 U	0.017 U	0.018 U		0.017 U
Fluoranthene	3000	240	mg/kg	0.29 J	4.3	0.45	1.09	1.2
Fluorene	3000	240	mg/kg	0.0074 U	0.0074 U	0.0075 U		0.0073 U
Hexachlorobenzene	0.96	0.21	mg/kg	0.014 U	0.014 U	0.014 U		0.014 U
Hexachlorobutadiene	5.3	1.2	mg/kg	0.0096 U	0.0095 U	0.0097 U		0.0095 U
Hexachlorocyclopentadiene	0.75	0.18	mg/kg	0.021 U	0.021 U	0.021 U		0.021 U
Hexachloroethane	8	1.8	mg/kg	0.012 U	0.012 U	0.013 U		0.012 U
Indeno[1,2,3-cd]pyrene	<b>2.9</b>	0.16	mg/kg	0.023 U	0.15	0.023 U	0.03	0.022 U
Isophorone	2400	570	mg/kg	0.0073 U	0.0073 U	0.0074 U		0.0072 U
Naphthalene	17	3.8	mg/kg	0.0086 U	0.0086 U	0.0088 U		0.0086 U
Nitrobenzene	22	5.1	mg/kg	0.011 U	0.011 U	0.011 U		0.011 U
N-Nitrosodi-n-propylamine	0.33	0.078	mg/kg	0.011 U	0.011 U	0.012 U		0.011 U
N-Nitrosodiphenylamine	470	110	mg/kg	0.031 U	0.031 U	0.031 U		0.031 U
Pentachlorophenol	4	1	mg/kg	0.041 U	0.041 U	0.042 U		0.041 U
Phenanthrene	--	--	mg/kg	0.23 J	2.4	0.45	0.78	0.44
Phenol	25000	1900	mg/kg	0.011 U	0.011 U	0.011 U		0.011 U
Pyrene	2300	180	mg/kg	0.015 U	0.88	0.11 J	0.24	0.26 J

Bold data indicates that parameter was detected above the EPA Residential Soil RSLs

Shaded data indicates that parameter was detected above the EPA Industrial Soil RSLs

**Table 16. Weighted Average Evaluation of Volatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Sample Location Sample Name Sample Lab Type Sample Date Sample Type			CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01
			CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1		CFPR01-BF-02-CO-CORE-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	
			Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation	Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation
			05/04/2017	05/02/2017		05/03/2017	05/04/2017	05/04/2017	
			N	N		N	N	N	
			Core Volume % from 0-1"		0.167				0.167
		Core Volume % from 1-6"			0.833				0.833
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit						
1,1,1-Trichloroethane	200	800	ug/l	0.28 U	0.28 U		0.28 U	0.28 U	0.28 U
1,1,2,2-Tetrachloroethane	--	--	ug/l	0.19 U	0.19 U		0.19 U	0.19 U	0.19 U
1,1,2-Trichloro-1,2,2-trifluoroethane	--	5500	ug/l	0.34 U	0.34 U		0.34 U	0.34 U	0.34 U
1,1,2-Trichloroethane	--	--	ug/l	0.08 U	0.08 U		0.08 U	0.08 U	0.08 U
1,1-Dichloroethane	--	2.8	ug/l	0.24 U	0.24 U		0.24 U	0.24 U	0.24 U
1,1-Dichloroethene	--	--	ug/l	0.34 U	0.34 U		0.34 U	0.34 U	0.34 U
1,2,3-Trichlorobenzene	--	0.7	ug/l	0.35 U	0.35 U		0.35 U	0.35 U	0.35 U
1,2,4-Trichlorobenzene	--	0.4	ug/l	0.27 U	0.27 U		0.64 J	0.27 U	0.27 U
1,2-Dibromo-3-Chloropropane	0.2	0.00033	ug/l	0.23 U	0.23 U		0.23 U	0.23 U	0.23 U
1,2-Dichlorobenzene	600	30	ug/l	0.22 U	0.22 U		0.22 U	0.22 U	0.22 U
1,2-Dichloroethane	5	0.17	ug/l	0.25 U	0.25 U		0.25 U	0.25 U	0.25 U
1,2-Dichloropropane	5	0.44	ug/l	0.18 U	0.18 U		0.18 U	0.18 U	0.18 U
1,3-Dichlorobenzene	--	--	ug/l	0.33 U	0.33 U		0.33 U	0.33 U	0.33 U
1,4-Dichlorobenzene	75	0.48	ug/l	0.33 U	0.33 U		0.33 U	0.33 U	0.33 U
2-Butanone (MEK)	--	560	ug/l	2.2 U	2.2 U		2.2 U	2.2 U	2.2 U
2-Hexanone	--	3.8	ug/l	0.72 U	0.72 U		0.72 U	0.72 U	0.72 U
4-Methyl-2-pentanone (MIBK)	--	630	ug/l	0.63 U	0.63 U		0.63 U	0.63 U	0.63 U
Acetone	--	1400	ug/l	14	12	12.33	14	21	13
Benzene	5	0.46	ug/l	0.25 J	0.19 U	0.12	0.34 J	0.45 J	0.19 U
Bromoform	80	3.3	ug/l	0.18 U	0.18 U		0.18 U	0.18 U	0.18 U
Bromomethane	--	0.75	ug/l	0.18 U	0.18 U		0.18 U	0.18 U	0.18 U
Carbon disulfide	--	81	ug/l	0.22 U	0.22 U		0.22 U	0.22 U	0.22 U
Carbon tetrachloride	5	0.46	ug/l	0.33 U	0.33 U		0.33 U	0.33 U	0.33 U
Chlorobenzene	7.8	100	ug/l	0.24 U	0.24 U		0.24 U	0.24 U	0.24 U
Chlorobromomethane	--	8.3	ug/l	0.3 U	0.3 U		0.3 U	0.3 U	0.3 U
Chlorodibromomethane	80	0.87	ug/l	0.22 U	0.22 U		0.22 U	0.22 U	0.22 U
Chloroethane	--	2100	ug/l	0.37 U	0.37 U		0.37 U	0.37 U	0.37 U
Chloroform	80	0.22	ug/l	0.22 U	0.22 U		0.22 U	0.22 U	0.22 U
Chloromethane	--	19	ug/l	0.22 U	0.22 U		0.22 U	0.22 U	0.22 U
cis-1,2-Dichloroethene	--	--	ug/l	0.26 U	0.26 U		0.26 U	0.26 U	0.26 U
cis-1,3-Dichloropropene	--	--	ug/l	0.16 U	0.16 U		0.16 U	0.16 U	0.16 U
Cyclohexane	--	1300	ug/l	0.26 U	0.26 U		0.26 U	0.26 U	0.26 U
Dichlorobromomethane	80	0.13	ug/l	0.15 U	0.15 U		0.15 U	0.15 U	0.15 U
Dichlorodifluoromethane	--	20	ug/l	0.14 U	0.14 U		0.14 U	0.14 U	0.14 U
Ethylbenzene	700	1.5	ug/l	0.75 J	0.3 U	0.25	1.5	5.2	0.3 U
Ethylene Dibromide	--	--	ug/l	0.19 U	0.19 U		0.19 U	0.19 U	0.19 U

**Table 16. Weighted Average Evaluation of Volatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

				Sample Location	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01
				Sample Name	CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1		CFPR01-BF-02-CO-CORE-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	
				Sample Lab Type	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation	Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation
				Sample Date	05/04/2017	05/02/2017		05/03/2017	05/04/2017	05/04/2017	
				Sample Type	N	N		N	N	N	
				Core Volume % from 0-1"			0.167				0.167
				Core Volume % from 1-6"			0.833				0.833
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit								
Isopropylbenzene	--	--	ug/l		0.32 U	0.32 U		0.32 U	0.73 J	0.32 U	0.26
Methyl acetate	--	2000	ug/l		0.58 U	0.58 U		0.58 U	0.58 U	0.58 U	
Methyl tert-butyl ether	--	14	ug/l		0.13 U	0.13 U		0.13 U	0.13 U	0.13 U	
Methylcyclohexane	--	--	ug/l		0.22 U	0.22 U		0.22 U	0.22 U	0.22 U	
Methylene Chloride	5	11	ug/l	<b>43 B</b>	<b>27 B</b>	<b>29.67</b>		<b>30 B</b>	<b>38 B</b>	<b>30 B</b>	<b>31.34</b>
m-Xylene & p-Xylene	--	--	ug/l		3.1	0.28 U	0.63	5.1	21	0.28 U	3.62
o-Xylene	--	19	ug/l		1.9	0.32 U	0.45	3.2	9.8	0.32 U	1.77
Styrene	100	120	ug/l		0.31 J	0.17 U	0.12	0.17 U	0.19 J	0.17 U	0.10
Tetrachloroethene	--	--	ug/l		0.36 U	0.36 U		0.36 U	0.36 U	0.36 U	
Toluene	1000	110	ug/l		1.1	0.25 U	0.29	4.7	6.3	0.3 J	1.30
trans-1,2-Dichloroethene	--	--	ug/l		0.18 U	0.18 U		0.18 U	0.18 U	0.18 U	
trans-1,3-Dichloropropene	--	--	ug/l		0.19 U	0.19 U		0.19 U	0.19 U	0.19 U	
Trichloroethene	--	--	ug/l		0.22 U	0.22 U		0.22 U	0.22 U	0.22 U	
Trichlorofluoromethane	--	520	ug/l		0.15 U	0.15 U		0.15 U	0.15 U	0.15 U	
Vinyl chloride	2	0.019	ug/l		0.2 U	0.2 U		0.2 U	0.2 U	0.2 U	

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 16. Weighted Average Evaluation of Volatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

			Sample Location Sample Name Sample Lab Type Sample Date Sample Type	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02
				CFPR01-GF-01-CO-CORE-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1		CFPR01-GF-02-CO-CORE-2
				Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation	Concrete core sample 0-6" after wipe/brush
				05/04/2017	05/04/2017	05/03/2017		05/03/2017
				N	N	N		N
			Core Volume % from 0-1"				0.167	
			Core Volume % from 1-6"				0.833	
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit					
1,1,1-Trichloroethane	200	800	ug/l	0.28 U	0.28 U	0.28 U		0.28 U
1,1,2,2-Tetrachloroethane	--	--	ug/l	0.19 U	0.19 U	0.19 U		0.19 U
1,1,2-Trichloro-1,2,2-trifluoroethane	--	5500	ug/l	0.34 U	0.34 U	0.34 U		0.34 U
1,1,2-Trichloroethane	--	--	ug/l	0.08 U	0.08 U	0.08 U		0.08 U
1,1-Dichloroethane	--	2.8	ug/l	0.24 U	0.24 U	0.24 U		0.24 U
1,1-Dichloroethene	--	--	ug/l	0.34 U	0.34 U	0.34 U		0.34 U
1,2,3-Trichlorobenzene	--	0.7	ug/l	0.35 U	0.35 U	0.35 U		0.35 U
1,2,4-Trichlorobenzene	--	0.4	ug/l	0.27 U	0.27 U	0.27 U		0.27 U
1,2-Dibromo-3-Chloropropane	0.2	0.00033	ug/l	0.23 U	0.23 U	0.23 U		0.23 U
1,2-Dichlorobenzene	600	30	ug/l	0.22 U	0.22 U	0.22 U		0.22 U
1,2-Dichloroethane	5	0.17	ug/l	0.25 U	0.25 U	0.25 U		0.25 U
1,2-Dichloropropane	5	0.44	ug/l	0.18 U	0.18 U	0.18 U		0.18 U
1,3-Dichlorobenzene	--	--	ug/l	0.33 U	0.33 U	0.33 U		0.33 U
1,4-Dichlorobenzene	75	0.48	ug/l	0.33 U	0.33 U	0.33 U		0.33 U
2-Butanone (MEK)	--	560	ug/l	2.2 U	27	2.2 U	5.43	2.2 U
2-Hexanone	--	3.8	ug/l	0.72 U	9.5	0.72 U	1.89	0.72 U
4-Methyl-2-pentanone (MIBK)	--	630	ug/l	0.63 U	3.9 J	0.63 U	0.91	0.63 U
Acetone	--	1400	ug/l	12	100	16	30.03	13
Benzene	5	0.46	ug/l	0.19 U	0.31 J	0.19 U	0.13	0.19 U
Bromoform	80	3.3	ug/l	0.18 U	0.18 U	0.18 U		0.18 U
Bromomethane	--	0.75	ug/l	0.18 U	0.18 U	0.18 U		0.18 U
Carbon disulfide	--	81	ug/l	0.22 U	0.22 U	0.22 U		0.22 U
Carbon tetrachloride	5	0.46	ug/l	0.33 U	0.33 U	0.33 U		0.33 U
Chlorobenzene	7.8	100	ug/l	0.24 U	0.24 U	0.24 U		0.24 U
Chlorobromomethane	--	8.3	ug/l	0.3 U	0.3 U	0.3 U		0.3 U
Chlorodibromomethane	80	0.87	ug/l	0.22 U	0.22 U	0.22 U		0.22 U
Chloroethane	--	2100	ug/l	0.37 U	0.37 U	0.37 U		0.37 U
Chloroform	80	0.22	ug/l	0.22 U	0.22 U	0.22 U		0.22 U
Chloromethane	--	19	ug/l	0.22 U	0.22 U	0.22 U		0.22 U
cis-1,2-Dichloroethene	--	--	ug/l	0.26 U	0.26 U	0.26 U		0.26 U
cis-1,3-Dichloropropene	--	--	ug/l	0.16 U	0.16 U	0.16 U		0.16 U
Cyclohexane	--	1300	ug/l	0.26 U	0.26 U	0.26 U		0.26 U
Dichlorobromomethane	80	0.13	ug/l	0.15 U	0.15 U	0.15 U		0.15 U
Dichlorodifluoromethane	--	20	ug/l	0.14 U	0.14 U	0.14 U		0.14 U
Ethylbenzene	700	1.5	ug/l	0.3 U	0.98 J	0.3 U	0.29	0.3 U
Ethylene Dibromide	--	--	ug/l	0.19 U	0.19 U	0.19 U		0.19 U

**Table 16. Weighted Average Evaluation of Volatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

			Sample Location Sample Name Sample Lab Type Sample Date Sample Type	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02
				CFPR01-GF-01-CO-CORE-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1		CFPR01-GF-02-CO-CORE-2
				Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation	Concrete core sample 0-6" after wipe/brush
				05/04/2017	05/04/2017	05/03/2017		05/03/2017
				N	N	N		N
			Core Volume % from 0-1"				0.167	
			Core Volume % from 1-6"				0.833	
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit					
Isopropylbenzene	--	--	ug/l	0.32 U	0.32 U	0.32 U		0.32 U
Methyl acetate	--	2000	ug/l	0.58 U	0.58 U	0.58 U		0.58 U
Methyl tert-butyl ether	--	14	ug/l	0.13 U	0.13 U	0.13 U		0.13 U
Methylcyclohexane	--	--	ug/l	0.22 U	0.22 U	0.22 U		0.22 U
Methylene Chloride	5	11	ug/l	<b>44 B</b>	<b>30 B</b>	<b>27 B</b>	<b>27.50</b>	<b>27 B</b>
m-Xylene & p-Xylene	--	--	ug/l	0.28 U	3.7	0.28 U	0.73	0.28 U
o-Xylene	--	19	ug/l	0.34 J	1.5	0.32 U	0.38	0.32 U
Styrene	100	120	ug/l	0.17 U	0.23 J	0.26 J	0.15	0.17 U
Tetrachloroethene	--	--	ug/l	0.36 U	0.36 U	0.36 U		0.36 U
Toluene	1000	110	ug/l	0.45 J	0.72 J	0.76 J	0.44	0.25 U
trans-1,2-Dichloroethene	--	--	ug/l	0.18 U	0.18 U	0.18 U		0.18 U
trans-1,3-Dichloropropene	--	--	ug/l	0.19 U	0.19 U	0.19 U		0.19 U
Trichloroethene	--	--	ug/l	0.22 U	0.22 U	0.22 U		0.22 U
Trichlorofluoromethane	--	520	ug/l	0.15 U	0.15 U	0.15 U		0.15 U
Vinyl chloride	2	0.019	ug/l	0.2 U	0.2 U	0.2 U		0.2 U

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 17. Weighted Average Evaluation of Semivolatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit	Sample Location	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01
				Sample Name	CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1		CFPR01-BF-02-CO-CORE-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	
				Sample Lab Type	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation	Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation
				Sample Date	05/04/2017	05/02/2017		05/03/2017	05/04/2017	05/04/2017	
				Sample Type	N	N		N	N	N	
				Core Volume % from 0-1"			0.167				0.167
				Core Volume % from 1-6"			0.833				0.833
1,1'-Biphenyl	--	0.083	ug/l		0.63 U	0.63 U		0.63 U	0.63 U	0.63 U	
1,2,4,5-Tetrachlorobenzene	--	0.17	ug/l		0.43 U	0.43 U		0.43 U	0.43 U	0.43 U	
1,4-Dioxane	--	0.46	ug/l		3.1 U	3.1 U		3.1 U	3.1 U	3.1 U	
2,2'-oxybis[1-chloropropane]	--	--	ug/l		0.93 U	0.93 U		0.93 U	0.93 U	0.93 U	
2,3,4,6-Tetrachlorophenol	--	24	ug/l		0.69 U	0.69 U		0.69 U	0.69 U	0.69 U	
2,4,5-Trichlorophenol	--	120	ug/l		0.49 U	0.49 U		0.49 U	0.49 U	0.49 U	
2,4,6-Trichlorophenol	--	1.2	ug/l		0.53 U	0.53 U		0.53 U	0.53 U	0.53 U	
2,4-Dichlorophenol	--	4.6	ug/l		0.63 U	0.63 U		0.63 U	0.63 U	0.63 U	
2,4-Dimethylphenol	--	36	ug/l		0.91 U	0.91 U		0.91 U	0.91 U	0.91 U	
2,4-Dinitrophenol	--	3.9	ug/l		2.4 U	2.4 U		2.4 U	2.4 U	2.4 U	
2,4-Dinitrotoluene	--	0.24	ug/l		1 U	1 U		1 U	1 U	1 U	
2,6-Dinitrotoluene	--	0.049	ug/l		0.88 U	0.88 U		0.88 U	0.88 U	0.88 U	
2-Chloronaphthalene	--	--	ug/l		0.61 U	0.61 U		0.61 U	0.61 U	0.61 U	
2-Chlorophenol	--	9.1	ug/l		0.74 U	0.74 U		0.74 U	0.74 U	0.74 U	
2-Methylnaphthalene	--	3.6	ug/l		2.4 J	0.88 U	0.77	0.88 U	0.88 U	1.5 J	1.32
2-Methylphenol	--	--	ug/l		1.3 U	1.3 U		1.3 U	1.3 U	1.3 U	
2-Nitroaniline	--	19	ug/l		0.65 U	0.65 U		0.65 U	0.65 U	0.65 U	
2-Nitrophenol	--	--	ug/l		0.59 U	0.59 U		0.59 U	0.59 U	0.59 U	
3 & 4 Methylphenol	--	--	ug/l		0.88 U	0.88 U		0.88 U	0.88 U	0.88 U	
3,3'-Dichlorobenzidine	--	0.13	ug/l		1 U	1 U		1 U	1 U	1 U	
3-Nitroaniline	--	--	ug/l		0.82 U	0.82 U		0.82 U	0.82 U	0.82 U	
4,6-Dinitro-2-methylphenol	--	--	ug/l		2 U	2 U		2 U	2 U	2 U	
4-Bromophenyl phenyl ether	--	--	ug/l		1 U	1 U		1 U	1 U	1 U	
4-Chloro-3-methylphenol	--	--	ug/l		0.76 U	0.76 U		0.76 U	0.76 U	0.76 U	
4-Chloroaniline	--	0.37	ug/l		0.73 U	0.73 U		0.73 U	0.73 U	0.73 U	
4-Chlorophenyl phenyl ether	--	--	ug/l		0.96 U	0.96 U		0.96 U	0.96 U	0.96 U	
4-Nitroaniline	--	3.8	ug/l		0.48 U	0.48 U		0.48 U	0.48 U	0.48 U	
4-Nitrophenol	--	--	ug/l		4.7 U	4.7 U		4.7 U	4.7 U	4.7 U	
Acenaphthene	--	53	ug/l		0.88 U	0.88 U		0.88 U	0.88 U	0.88 U	
Acenaphthylene	--	--	ug/l		0.65 U	0.65 U		0.65 U	0.65 U	0.65 U	
Acetophenone	--	190	ug/l		1 U	1 U		1 U	1 U	1 U	
Anthracene	--	180	ug/l		0.57 U	0.57 U		0.57 U	0.57 U	0.57 U	
Atrazine	3	0.3	ug/l		0.77 U	0.77 U		0.77 U	0.77 U	0.77 U	
Benzaldehyde	--	190	ug/l		0.86 U	0.86 U		0.86 U	0.86 U	0.86 U	
Benzo[a]anthracene	--	--	ug/l		0.55 U	0.55 U		0.55 U	0.55 U	0.55 U	

**Table 17. Weighted Average Evaluation of Semivolatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

			Sample Location Sample Name Sample Lab Type Sample Date Sample Type	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01
				CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1		CFPR01-BF-02-CO-CORE-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	
				Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation	Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation
				05/04/2017	05/02/2017		05/03/2017	05/04/2017	05/04/2017	
			Sample Type	N	N		N	N	N	
			Core Volume % from 0-1"			0.167				0.167
			Core Volume % from 1-6"			0.833				0.833
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit							
Benzo[a]pyrene	0.2	0.0034	ug/l	0.16 U	0.16 U		0.16 U	0.16 U	0.16 U	
Benzo[b]fluoranthene	--	0.034	ug/l	0.44 U	0.44 U		0.44 U	0.44 U	0.44 U	
Benzo[g,h,i]perylene	--	--	ug/l	0.75 U	0.75 U		0.75 U	0.75 U	0.75 U	
Benzo[k]fluoranthene	--	0.34	ug/l	0.18 U	0.18 U		0.18 U	0.18 U	0.18 U	
Bis(2-chloroethoxy)methane	--	5.9	ug/l	0.69 U	0.69 U		0.69 U	0.69 U	0.69 U	
Bis(2-chloroethyl)ether	--	0.014	ug/l	0.12 U	0.12 U		0.12 U	0.12 U	0.12 U	
Bis(2-ethylhexyl) phthalate	5.6	6	ug/l	0.72 U	0.72 U		0.72 U	0.72 U	0.72 U	
Butyl benzyl phthalate	--	16	ug/l	0.6 U	0.6 U		0.6 U	0.6 U	0.6 U	
Caprolactam	--	990	ug/l	1.1 U	1.1 U		1.1 U	1.1 U	1.1 U	
Carbazole	--	--	ug/l	1.7 J	0.85 U	0.64	0.85 U	19	3.2 J	5.84
Chrysene	--	3.4	ug/l	0.67 U	0.67 U		0.67 U	0.67 U	0.67 U	
Dibenz(a,h)anthracene	--	0.0034	ug/l	0.09 U	0.09 U		0.09 U	0.09 U	0.09 U	
Dibenzofuran	--	0.79	ug/l	0.85 U	0.85 U		0.85 U	0.85 U	0.85 U	
Diethyl phthalate	--	--	ug/l	1 U	1 U		1 U	1 U	1 U	
Dimethyl phthalate	--	--	ug/l	0.98 U	0.98 U		0.98 U	0.98 U	0.98 U	
Di-n-butyl phthalate	--	--	ug/l	0.82 U	0.82 U		0.82 U	0.82 U	0.82 U	
Di-n-octyl phthalate	--	20	ug/l	0.69 U	0.69 U		0.69 U	0.69 U	0.69 U	
Fluoranthene	--	80	ug/l	0.72 U	0.72 U		0.72 U	2.5 J	0.85 J	1.13
Fluorene	--	29	ug/l	0.8 U	0.8 U		0.8 U	0.8 U	0.8 U	
Hexachlorobenzene	1	0.0098	ug/l	0.47 U	0.47 U		0.47 U	0.47 U	0.47 U	
Hexachlorobutadiene	--	0.14	ug/l	0.76 U	0.76 U		0.76 U	0.76 U	0.76 U	
Hexachlorocyclopentadiene	50	0.041	ug/l	0.61 UT	0.61 UT		0.61 UT	0.61 UT	0.61 UT	
Hexachloroethane	--	0.33	ug/l	0.09 U	0.09 U		0.09 U	0.09 U	0.09 U	
Indeno[1,2,3-cd]pyrene	--	0.034	ug/l	0.21 U	0.21 U		0.21 U	0.21 U	0.21 U	
Isophorone	--	78	ug/l	0.67 U	0.67 U		0.67 U	0.67 U	0.67 U	
Naphthalene	--	0.17	ug/l	1 J	1.2 J	1.17	0.8 U	0.8 U	1.6 J	1.40
Nitrobenzene	--	0.14	ug/l	0.49 U	0.49 U		0.49 U	0.49 U	0.49 U	
N-Nitrosodi-n-propylamine	--	0.011	ug/l	0.83 U	0.83 U		0.83 U	0.83 U	0.83 U	
N-Nitrosodiphenylamine	--	12	ug/l	0.74 U	0.74 U		0.74 U	0.74 U	0.74 U	
Pentachlorophenol	1	0.041	ug/l	2.2 U	2.2 U		2.2 U	2.2 U	2.2 U	
Phenanthrene	--	--	ug/l	1.4 J	0.65 U	0.50	1.1 J	2.3 J	2 J	2.05
Phenol	--	580	ug/l	0.41 U	0.41 U		0.41 U	0.41 U	0.41 U	
Pyrene	--	12	ug/l	0.83 U	0.83 U		0.83 U	1.1 J	0.83 U	0.53

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 17. Weighted Average Evaluation of Semivolatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

			Sample Location Sample Name Sample Lab Type Sample Date Sample Type	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02
				CFPR01-GF-01-CO-CORE-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1		CFPR01-GF-02-CO-CORE-2
				Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation	Concrete core sample 0-6" after wipe/brush
				05/04/2017	05/04/2017	05/03/2017		05/03/2017
				N	N	N		N
			Core Volume % from 0-1"				0.167	
			Core Volume % from 1-6"				0.833	
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit					
1,1'-Biphenyl	--	0.083	ug/l	0.63 U	0.63 U	0.71 J	0.64	0.63 U
1,2,4,5-Tetrachlorobenzene	--	0.17	ug/l	0.43 U	0.43 U	0.43 U		0.43 U
1,4-Dioxane	--	0.46	ug/l	3.1 U	3.1 U	3.1 U		3.1 U
2,2'-oxybis[1-chloropropane]	--	--	ug/l	0.93 U	0.93 U	0.93 U		0.93 U
2,3,4,6-Tetrachlorophenol	--	24	ug/l	0.69 U	0.69 U	0.69 U		0.69 U
2,4,5-Trichlorophenol	--	120	ug/l	0.49 U	0.49 U	0.49 U		0.49 U
2,4,6-Trichlorophenol	--	1.2	ug/l	0.53 U	0.53 U	0.53 U		0.53 U
2,4-Dichlorophenol	--	4.6	ug/l	0.63 U	0.63 U	0.63 U		0.63 U
2,4-Dimethylphenol	--	36	ug/l	0.91 U	0.91 U	0.91 U		0.91 U
2,4-Dinitrophenol	--	3.9	ug/l	2.4 U	2.4 U	2.4 U		2.4 U
2,4-Dinitrotoluene	--	0.24	ug/l	1 U	1 U	1 U		1 U
2,6-Dinitrotoluene	--	0.049	ug/l	0.88 U	0.88 U	0.88 U		0.88 U
2-Chloronaphthalene	--	--	ug/l	0.61 U	0.61 U	0.61 U		0.61 U
2-Chlorophenol	--	9.1	ug/l	0.74 U	0.74 U	0.74 U		0.74 U
2-Methylnaphthalene	--	3.6	ug/l	3.4 J	0.88 U	2 J	1.74	0.92 J
2-Methylphenol	--	--	ug/l	1.3 U	1.3 U	1.3 U		1.3 U
2-Nitroaniline	--	19	ug/l	0.65 U	0.65 U	0.65 U		0.65 U
2-Nitrophenol	--	--	ug/l	0.59 U	0.59 U	0.59 U		0.59 U
3 & 4 Methylphenol	--	--	ug/l	0.88 U	0.88 U	0.88 U		0.88 U
3,3'-Dichlorobenzidine	--	0.13	ug/l	1 U	1 U	1 U		1 U
3-Nitroaniline	--	--	ug/l	0.82 U	0.82 U	0.82 U		0.82 U
4,6-Dinitro-2-methylphenol	--	--	ug/l	2 U	2 U	2 U		2 U
4-Bromophenyl phenyl ether	--	--	ug/l	1 U	1 U	1 U		1 U
4-Chloro-3-methylphenol	--	--	ug/l	0.76 U	0.76 U	0.76 U		0.76 U
4-Chloroaniline	--	0.37	ug/l	0.73 U	0.73 U	0.73 U		0.73 U
4-Chlorophenyl phenyl ether	--	--	ug/l	0.96 U	0.96 U	0.96 U		0.96 U
4-Nitroaniline	--	3.8	ug/l	0.48 U	0.48 U	0.48 U		0.48 U
4-Nitrophenol	--	--	ug/l	4.7 U	4.7 U	4.7 U		4.7 U
Acenaphthene	--	53	ug/l	0.88 U	0.88 U	2.6 J	2.24	0.88 U
Acenaphthylene	--	--	ug/l	0.65 U	0.65 U	3.4 J	2.89	0.65 U
Acetophenone	--	190	ug/l	1 U	1 U	1 U		1.4 J
Anthracene	--	180	ug/l	0.57 U	0.57 U	1.1 J	0.96	0.57 U
Atrazine	3	0.3	ug/l	0.77 U	0.77 U	0.77 U		0.77 U
Benzaldehyde	--	190	ug/l	0.86 U	0.86 U	0.86 U		0.86 U
Benzo[a]anthracene	--	--	ug/l	0.55 U	0.55 U	0.55 U		1.8

**Table 17. Weighted Average Evaluation of Semivolatile Organic Compounds in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

			Sample Location Sample Name Sample Lab Type Sample Date Sample Type	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02
				CFPR01-GF-01-CO-CORE-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1		CFPR01-GF-02-CO-CORE-2
				Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation	Concrete core sample 0-6" after wipe/brush
				05/04/2017	05/04/2017	05/03/2017		05/03/2017
				N	N	N		N
			Core Volume % from 0-1"				0.167	
			Core Volume % from 1-6"				0.833	
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit					
Benzo[a]pyrene	0.2	0.0034	ug/l	0.16 U	0.16 U	0.16 U		0.16 U
Benzo[b]fluoranthene	--	0.034	ug/l	0.44 U	0.44 U	0.44 U		0.44 U
Benzo[g,h,i]perylene	--	--	ug/l	0.75 U	0.75 U	0.75 U		0.75 U
Benzo[k]fluoranthene	--	0.34	ug/l	0.18 U	0.18 U	0.18 U		0.18 U
Bis(2-chloroethoxy)methane	--	5.9	ug/l	0.69 U	0.69 U	0.69 U		0.69 U
Bis(2-chloroethyl)ether	--	0.014	ug/l	0.12 U	0.12 U	0.12 U		0.12 U
Bis(2-ethylhexyl) phthalate	5.6	6	ug/l	0.72 U	0.72 U	0.72 U		0.72 U
Butyl benzyl phthalate	--	16	ug/l	0.6 U	0.6 U	0.6 U		0.6 U
Caprolactam	--	990	ug/l	1.1 U	1.1 U	1.1 U		1.1 U
Carbazole	--	--	ug/l	0.88 J	7.6 J	1.4 J	2.44	16
Chrysene	--	3.4	ug/l	0.67 U	0.67 U	0.67 U		0.67 U
Dibenz(a,h)anthracene	--	0.0034	ug/l	0.09 U	0.09 U	0.09 U		0.09 U
Dibenzofuran	--	0.79	ug/l	0.85 U	0.85 U	0.85 U		0.85 U
Diethyl phthalate	--	--	ug/l	1 U	1 U	1 U		1 U
Dimethyl phthalate	--	--	ug/l	0.98 U	0.98 U	0.98 U		0.98 U
Di-n-butyl phthalate	--	--	ug/l	0.82 U	0.82 U	0.82 U		0.82 U
Di-n-octyl phthalate	--	20	ug/l	0.69 U	0.69 U	0.69 U		0.69 U
Fluoranthene	--	80	ug/l	0.72 U	1.7 J	1.9 J	1.87	3.9 J
Fluorene	--	29	ug/l	0.8 U	0.8 U	6.1 J	5.15	0.8 U
Hexachlorobenzene	1	0.0098	ug/l	0.47 U	0.47 U	0.47 U		0.47 U
Hexachlorobutadiene	--	0.14	ug/l	0.76 U	0.76 U	0.76 U		0.76 U
Hexachlorocyclopentadiene	50	0.041	ug/l	0.61 UT	0.61 UT	0.61 UT		0.61 UT
Hexachloroethane	--	0.33	ug/l	0.09 U	0.09 U	0.09 U		0.09 U
Indeno[1,2,3-cd]pyrene	--	0.034	ug/l	0.21 U	0.21 U	0.21 U		0.21 U
Isophorone	--	78	ug/l	0.67 U	0.67 U	0.67 U		0.67 U
Naphthalene	--	0.17	ug/l	3.9 J	0.8 U	1.6 J	1.40	1 J
Nitrobenzene	--	0.14	ug/l	0.49 U	0.49 U	0.49 U		0.49 U
N-Nitrosodi-n-propylamine	--	0.011	ug/l	0.83 U	0.83 U	0.83 U		0.83 U
N-Nitrosodiphenylamine	--	12	ug/l	0.74 U	0.74 U	0.74 U		0.74 U
Pentachlorophenol	1	0.041	ug/l	2.2 U	2.2 U	2.2 U		2.2 U
Phenanthrene	--	--	ug/l	0.79 J	3.7 J	12	10.61	6.4 J
Phenol	--	580	ug/l	0.41 U	0.41 U	0.41 U		2.1 J
Pyrene	--	12	ug/l	0.83 U	0.83 U	1.2 J	1.07	1.2 J

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 18. Weighted Average Evaluation of Metals in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

	Sample Location Sample Name Sample Lab Type Sample Date Sample Type	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01
		CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1		CFPR01-BF-02-CO-CORE-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	
		Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation	Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation
		05/04/2017	05/02/2017		05/03/2017	05/04/2017	05/04/2017	
		N	N		N	N	N	
Core Volume % from 0-1"				0.167				0.167
Core Volume % from 1-6"				0.833				0.833
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit					
Aluminum	--	2000	ug/l	337 B	1000 B	889.28	896 B	1880 B
Antimony	6	0.78	ug/l	1.1 J	0.62 U	0.44	0.62 U	0.7 J
Arsenic	10	0.052	ug/l	0.64 U	0.64 U		0.64 U	0.64 U
Barium	2000	380	ug/l	52	160	141.96	218	19.5
Beryllium	4	2.5	ug/l	0.24 U	0.24 U		0.24 U	0.24 U
Cadmium	--	--	ug/l	0.71 U	0.71 U		0.71 U	0.71 U
Calcium	--	--	ug/l	48600	160000	141396.20	216000	28600
Chromium	100	--	ug/l	12.6	11.5	11.68	12	2.7 J
Cobalt	--	0.6	ug/l	1.7 J	1.6 J	1.62	1.3 U	1.3 U
Copper	1300	80	ug/l	2.8 J	1.8 J	1.97	1.4 U	1.4 U
Cyanide, Free	200	0.15	ug/l	9.8	36	31.62	24.9	1.5 U
Iron	--	1400	ug/l	93.7 J	42.4 U	33.31	42.4 U	42.8 J
Lead	15	15	ug/l	0.38 U	0.38 U		0.46 J	0.38 U
Magnesium	--	--	ug/l	192 J	67.1 J	87.96	68.3 J	96.4 J
Manganese	--	--	ug/l	2.8 J	2.5 U	1.51	2.5 U	3.5 J
Mercury	2	0.063	ug/l	0.17 U	0.17 U		0.17 U	0.17 U
Nickel	--	--	ug/l	1.5 J	1.4 U	0.83	1.4 U	1.4 U
Potassium	--	--	ug/l	9940 B	12000 B	11655.98	15300 B	3580 B
Selenium	50	10	ug/l	0.73 U	0.73 U		0.73 U	0.73 U
Silver	--	9.4	ug/l	1.3 U	1.3 U		1.3 U	1.3 U
Sodium	--	--	ug/l	29300	22100	23302.40	16600	79900
Thallium	2	0.02	ug/l	0.26 U	0.26 U		0.26 U	0.26 U
Vanadium	--	8.6	ug/l	12.7	1.9 U	2.91	1.9 U	15.1
Zinc	--	600	ug/l	7 U	7 U		7 U	7 U

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 18. Weighted Average Evaluation of Metals in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

	Sample Location Sample Name Sample Lab Type Sample Date Sample Type	CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02
		CFPR01-GF-01-CO-CORE-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1	CFPR01-GF-02-CO-CORE-2	Weighted Average Calculation
		Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning		
		05/04/2017	05/04/2017	05/03/2017		
		N	N	N		
	Core Volume % from 0-1"				0.167	
	Core Volume % from 1-6"				0.833	
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit			
Aluminum	--	2000	ug/l	719 B	1700 B	946 B
Antimony	6	0.78	ug/l	0.62 U	0.62 U	0.62 U
Arsenic	10	0.052	ug/l	0.64 U	0.64 U	0.64 U
Barium	2000	380	ug/l	581	73.3	504
Beryllium	4	2.5	ug/l	0.24 U	0.24 U	0.24 U
Cadmium	--	--	ug/l	0.71 U	0.71 U	0.71 U
Calcium	--	--	ug/l	381000	122000	288000
Chromium	100	--	ug/l	9.9	4.5	11.2
Cobalt	--	0.6	ug/l	1.3 U	1.3 U	1.3 U
Copper	1300	80	ug/l	1.4 U	1.4 U	1.4 U
Cyanide, Free	200	0.15	ug/l	11.7	1.5 U	1.5 U
Iron	--	1400	ug/l	42.4 U	42.4 U	42.4 U
Lead	15	15	ug/l	0.58 J	0.38 U	0.39 J
Magnesium	--	--	ug/l	67.9 J	66.1 J	68.4 J
Manganese	--	--	ug/l	2.5 U	2.5 U	2.5 U
Mercury	2	0.063	ug/l	0.17 U	0.17 U	0.17 U
Nickel	--	--	ug/l	1.4 U	1.4 U	1.4 U
Potassium	--	--	ug/l	13700 B	7830 B	11900 B
Selenium	50	10	ug/l	0.73 U	0.73 U	0.73 U
Silver	--	9.4	ug/l	1.3 U	1.3 U	1.3 U
Sodium	--	--	ug/l	18600	15900	13000
Thallium	2	0.02	ug/l	0.26 U	0.26 U	0.26 U
Vanadium	--	8.6	ug/l	1.9 U	5.3	1.9 U
Zinc	--	600	ug/l	7 U	7 U	7 U

Bold data indicates that parameter was detected above  
the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above  
the EPA Tapwater RSL

**Table 19. Weighted Average Evaluation of General Chemistry in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Sample Location Sample Name		CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-BF-02	CFPR01-GF-01	CFPR01-GF-01	CFPR01-GF-01
		CFPR01-BF-02-CORE-0-1	CFPR01-BF-02-CO-CORE-1		CFPR01-BF-02-CO-CORE-2	CFPR01-GF-01-CORE-0-1	CFPR01-GF-01-CO-CORE-1	
Sample Lab Type		Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation	Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation
		05/04/2017	05/02/2017		05/03/2017	05/04/2017	05/04/2017	
Sample Date Sample Type		N	N		N	N	N	
Core Volume % from 0-1"				0.167				0.167
Core Volume % from 1-6"				0.833				0.833
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit					
Fluoride	<b>4000</b>	80	ug/l	3830	165	777.06	141	<b>9920 D</b>
								681
								2223.91

Bold data indicates that parameter was detected above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected above the EPA Tapwater RSL

**Table 19. Weighted Average Evaluation of General Chemistry in Concrete Leachate**  
**Columbia Falls Aluminum Company, LLC, 2000 Aluminum Drive, Columbia Falls, MT**

Sample Location Sample Name		CFPR01-GF-01	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02	CFPR01-GF-02
		CFPR01-GF-01-CO-CORE-2	CFPR01-GF-02-CORE-0-1	CFPR01-GF-02-CO-CORE-1		CFPR01-GF-02-CO-CORE-2
Sample Lab Type		Concrete core sample 0-6" after wipe/brush	Concrete core sample 0-1" prior to cleaning	Concrete core sample 1-6" prior to cleaning	Weighted Average Calculation	Concrete core sample 0-6" after wipe/brush
		05/04/2017	05/04/2017	05/03/2017		05/03/2017
Sample Date Sample Type		N	N	N		N
Core Volume % from 0-1"					0.167	
Core Volume % from 1-6"					0.833	
Analyte	EPA Risk Based Screening Level Drinking water MCL	EPA Risk Based Screening Level Tapwater RSL	Unit			
Fluoride	4000	80	ug/l	332	<b>4480 D</b>	316
						1011.39
						<b>8340 D</b>

Bold data indicates that parameter was detected  
above the EPA Drinking Water MCL

Shaded data indicates that parameter was detected  
above the EPA Tapwater RSL